This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

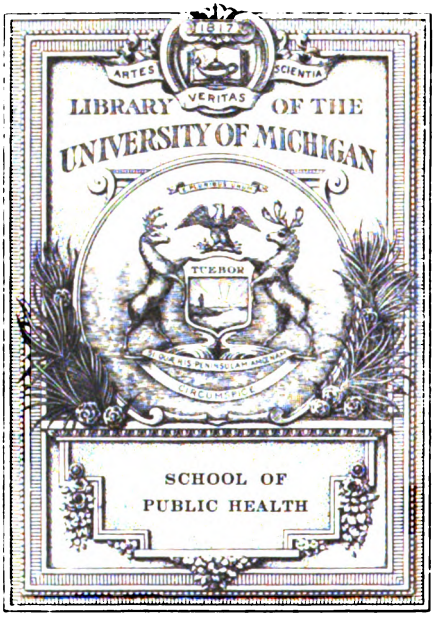
+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

3 471125

Digitized by Google



THE GIFT OF
DR. HENRY F. VAUGHAN

Digitized by Google

Public Health
RA
121
.B1

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

THIRTY-FIFTH ANNUAL REPORT

OF THE

New York

STATE) DEPARTMENT OF HEALTH

OF

NEW YORK

For the Year Ending December 31, 1914

VOLUME I

ALBANY
J. B. LYON COMPANY, PRINTERS
1916

Digitized by Google

Digitized by Google

STATE OF NEW YORK

No. 57

IN ASSEMBLY

FEBRUARY 1, 1915

THIRTY-FIFTH ANNUAL REPORT

OF THE

STATE DEPARTMENT OF HEALTH

STATE OF NEW YORK,

EXECUTIVE CHAMBER,

ALBANY, *February* 1, 1915

To the Legislature:

I have the honor to transmit herewith the thirty-fifth annual report of the State Commissioner of Health for the year 1914.

CHARLES S. WHITMAN

Digitized by Google

NEW YORK STATE DEPARTMENT OF HEALTH

Commissioner, HERMANN M. BIGGS, M.D., LL.D.

Deputy Commissioner, LINSLY R. WILLIAMS, M.D.

Secretary, DELANCEY K. JAY

Directors of Divisions

Division of Sanitary Engineering.....Theodore Horton, C.E.
Division of Laboratories and Research.....Augustus B. Wadsworth, M.D.
Division of Vital Statistics.....Cressy L. Wilbur, M.D.
Division of Communicable Diseases.....Fred M. Meader, M.D.
Division of Child Hygiene.....Henry L. K. Shaw, M.D.
Division of Publicity and Education.....Prof. C.-E. A. Winslow

Consulting Staff

Bacteriologist.....William H. Park, M.D.
Consultant, Animal Pathology.....Theobald Smith, M.D.
Consulting Expert, Communicable Disease.....Alvah H. Doty, M.D.
Dermatologist.....Frederic C. Curtis, M.D.
Pediatrician.....L. Emmett Holt, M.D., LL.D.
Statistician.....Walter F. Willcox, Ph.D.

Public Health Council

HERMANN M. BIGGS, M.D., LL.D. New York City, *Chairman*

Mrs. Elmer Blair.....Albany
Chairman, Public Health Department, General Federation of Women's Clubs

Simon Flexner, M.D., LL.D.....New York City
Director, Laboratories of Rockefeller Institute for Medical Research

Homer Folks, LL.D.....Yonkers
Secretary, State Charities Aid Association

Henry N. Ogden, C.E.....Ithaca
Professor, Sanitary Engineering, Cornell University

T. Mitchell Prudden, M.D., LL.D.....New York City
Vice-President, Board of Scientific Directors, Rockefeller Institute for Medical Research

Wilhelm Gaertner, A.M., M.D., Ph.D.....Buffalo
Attending Physician, German Hospital

Digitized by Google

HENRY F.
VAUGHAN
LIBRARY

Public Health
Gift
Henry F. Vaughan
4-10-44

THIRTY-FIFTH ANNUAL REPORT OF THE STATE DEPARTMENT OF HEALTH

REPORT OF THE COMMISSIONER OF HEALTH

PART I

Letter of Transmissal

His Excellency, Charles S. Whitman, Governor of New York State, Albany, N. Y.:

SIR.— In presenting the Annual Report of the State Department of Health, I desire to ask your consideration of the great opportunities for improving the health and prolonging the lives of the people of the State of New York, recently made possible by the revelations of scientific medicine. These discoveries promise many benefits which are as yet very incompletely realized, and open new fields of activity as yet almost untouched. It is the earnest desire of my associates and myself, through the State Department of Health, to render them available in a greater degree than in the past, for the prevention of disease and the prolongation of life.

The Promise of Preventive Medicine

Disease can be prevented and life prolonged

The teachings of modern scientific research are clear and unmistakable. Disease can be prevented and life prolonged. The approach of fatal maladies can be foreseen and stayed. The average mental capacity and the physical efficiency of mankind can be further materially increased and its happiness and contentment proportionately augmented. The misery and loss resulting from a host of minor ailments may be greatly diminished.

Shall this generation profit by the teachings of Science

Much already has been accomplished by modern sanitary measures; much more remains to be done. The significance of the discoveries as to the nature and causation of disease cannot be misinterpreted or their importance safely ignored. The urgent question before every

Digitized by Google

community is — shall this generation realize the benefits which science and experience offer, or are these to be neglected until a wiser and more thoughtful generation takes its place?

Public health education essential

Simple measures in the main — difficult in their application to large masses of the population only because they involve public health education — will assure these benefits. The education of the public to the risks of neglect, and to the advantages and ways of healthful living, is necessarily a slow process. For its successful accomplishment by the sanitary authorities, the requisites are adequate funds, broad powers, and an efficient organization carrying guidance and inspiration into every school, workshop, store and factory, as well as into every home, whether in the city, town, or remotest countryside. The exact achievements of modern preventive medicine, and the collection of statistics of disease and death have made it possible today, as it has never been before, to calculate with reasonable accuracy and in terms of life and health, as well as in dollars and cents, the returns which expenditures of money and of personal service by the State may secure.

Public health is purchasable

The motto adopted by the State Department of Health —"Public Health Is Purchasable. Within Natural Limitations Any Community Can Determine Its Own Death Rate" — is as true when applied to the State as a whole as to any individual community within it. The Government of the whole State securing the cooperation of local authorities can without question, and within a reasonable time, reduce the annual death rate as low as or lower than that now existing in New York City, and thereby save nearly 10,000 lives annually. Not only can these lives be saved, but at the same time 100,000 cases of serious illness each year can be prevented, with all the economic loss involved in payments to physicians and nurses, the cost of medicines, of special foods and supplies, the suspension of wages and decreased efficiency, lowered vitality and mental and physical suffering. Experience shows that on the average for every death in this State at least ten cases of serious preventable illness occur. Even in case of recovery the individuals are temporarily or permanently handicapped.

Digitized by Google

Unnecessary loss to state estimated

A conservative estimate, based on a money valuation of $2,500 for each life thus unnecessarily lost, and $50 for the emergency expenses for each case of severe illness, gives a total loss in this State of $30,000,000 a year in preventable disease. And this estimate takes no account of the vast increase in the economic efficiency of the people of the State, which is possible through the fostering of greater healthfulness in all communities, and the larger suppression of the minor preventable maladies.

Task set for the State Department of Health

The State Department has set for itself the task of saving 25,000 lives within five years. The question now is simply, whether the Legislature will provide the funds necessary to secure this saving. The amount required annually is not more than two or three per cent. of the sum which will inevitably be lost to the State unless the experience of the past is definitely changed.

Health and education

Health and education should go hand in hand and on the same plane; but while millions are devoted to education, only thousands are spared for health. A hundred millions are spent by the State on a barge canal; another hundred millions on good roads; tens of millions on institutions for the care of mental and physical derelicts, while a few hundreds of thousands only are devoted to the promotion of health. This is not said in criticism of these larger and perhaps justifiable public expenditures, but to emphasize the newly recognized necessity which the welfare of every citizen involves.

Achievement in New York City

What practical man of business twenty-five years ago would have believed that 50,000 lives a year could be saved in the City of New York by health measures? Yet this result has already been accomplished. The financial authorities of New York City were sufficiently broadminded and farseeing to trust to the judgment of experts, and with the aid of numerous efficient voluntary agencies the result has been achieved. The handicaps of city life and over-crowding have been outweighed and the crude death rate in the second largest city in the world has been reduced materially below that of the rural districts of the State.

Digitized by Google

Lives saved not simply of unfit

It is often assumed that this saving of life is of th unfit, of those whose lives are of little or no value to th community, but such is not the case. Communicabl disease does not always discriminate in favor of th healthy and robust at the expense of his weaker brother an sister. Indeed strong and weak may suffer alike.

Prolongation of life at middle periods

As is well known, some of the most useful members (every community are physically handicapped almost fro birth because of the lack of knowledge concerning tl safeguards to health which science now freely offers.

The diseases of the heart and blood vessels, the kidne and the brain, which are peculiar to the middle and lat periods of life and which seem to have been rapidly i creasing in recent years, are most insidious in their cns and development. The affected individual is often qu unconscious of their presence until measures intended f their arrest are no longer promising. A broad field the greatest usefulness is here open to the sanitary a thorities, which has thus far been almost untouched.

We are convinced that at least five years may be add to the average lifetime of each individual reaching the a of forty-five, (the period of greatest usefulness and p ductiveness) by the subsequent proper guidance and prot tion of his life activities, at no cost of efficiency, but on t contrary, with a distinct average increase.

Adequate appropriation necessary

The Department of Health has asked for increased a propriations to carry forward this campaign of educati to extend laboratory facilities for the diagnosis a specific treatment of disease, to safeguard the peo against preventable diseases and to postpone the appro of those diseases which are inevitable. In subsequent ye further increases will be needed but these will be ne sary only as results are obtained which justify them.

I would appeal for a distinct policy of the Admi tration for the intelligent and rational support of suc campaign for the prevention of disease and the prolon tion of life, and the establishment of the Sanitary . ministration of the State on a high plane of scientific a practical efficiency.

Digitized by Google

Revised public health law a model

The revised Public Health Law is regarded by sanitary experts throughout the country as a model to be followed, and many are now turning to this State for counsel and inspiration in the advancement and perfection of their health organization and administration. The cooperation of a corps of capable and devoted workers has been secured in the central organization for the service of the State. It is confidently believed that soon in every thoughtful community the new outlooks in the prevention of disease and the promotion of healthful modes of life in still larger measure may be made fruitful and the way thus cleared to positive and far-reaching achievements for the general welfare.

Responsibility with the Legislature and the Chief Executive

It remains for the Legislature and the Chief Executive to decide in how far the citizens of the State of New York can be given the benefits in prolonged and effective life which science and experience afford, or whether without further aid they must still take their unequal chances with disease and death.

The Report which I submit under separate cover contains a brief account of the reorganization of the Health Department under the conditions imposed by the new health law. This is followed by suggestions as to such legislative action as seems to me necessary for the better protection of life and health; and the full reports of the Directors of Divisions. The Report of the Public Health Council is also presented.

Respectfully yours,

HERMANN M. BIGGS,

Commissioner of Health

February 1, 1915

Digitized by Google

Digitized by Google

PART II

Reorganization of the Department

The Public Health Law enacted for New York State May 17, 1913, is believed to be the most progressive and complete yet provided by any state. Since its enactment it has been copied by Maryland and Massachusetts, and New Jersey, while other states are considering laws modeled along similar lines.

The specially novel and important features of the New York law are three in number, the delegation to a Public Health Council of the power to formulate a state-wide sanitary code, the concentration of all administrative power in the hands of a single commissioner with a staff of division heads for all the important lines of public health work and the working out of a practical plan of coordination between state and local health authorities.

The first important principle involved in the law is the delegation to a Public Health Council composed of the Commissioner of Health and six appointive members of the power to establish qualifications for Directors of Divisions, Sanitary Supervisors, local Health Officers and Public Health Nurses, and to establish sanitary regulations dealing with "any matters affecting the security of life and health, or the preservation and improvement of public health in the State of New York" outside of the City of New York.

This delegation to a small expert body of the power to formulate a sanitary code is essential to sound sanitary progress. The requirements of modern sanitary health regulations are so complex and must be subject to such constant modification that a code enacted by a legislative body must necessarily be either unduly repressive or so vague as to be of little practical value. It is undoubtedly a matter of serious moment to confer such powers upon a small body, but with the proper personnel this method furnishes the only satisfactory method of working out the details of sanitary regulation.

While the Council is thus given what amounts practically to legislative authority within its specified field, the State Commissioner of Health is solely responsible for all administrative and executive policies. The Department organization includes a Deputy Commissioner, Secretary and eight Directors, appointed under the provisions of the Civil Service Law, of the important Divisions of Sanitary Engineering, Laboratories and Research, Vital Statistics, Communicable Diseases,

Digitized by Google

Child Hygiene, Tuberculosis, Public Health Nursing and Publicity and Education.

The most effective health work can always be carried on by someone on the spot who knows the local situation and is a part of the com munity which he is serving. A serious difficulty, however, arises i regard to the prosecution of such work in small communities where th adequate technical knowledge is usually not available. The New Yor law meets this difficulty by an apparently successful expedient throug the third feature embodied in the law — the creation of a group of 2 district Sanitary Supervisors who act as intermediaries between th State Department and the local Health Officer, bringing to the latter th technical knowledge and the moral support of the State organizatio The Public Health Council established qualifications for these positio and the Civil Service Commission held an examination on March 1914, in which the names of 85 out of 174 original applicants we placed upon the eligible list.

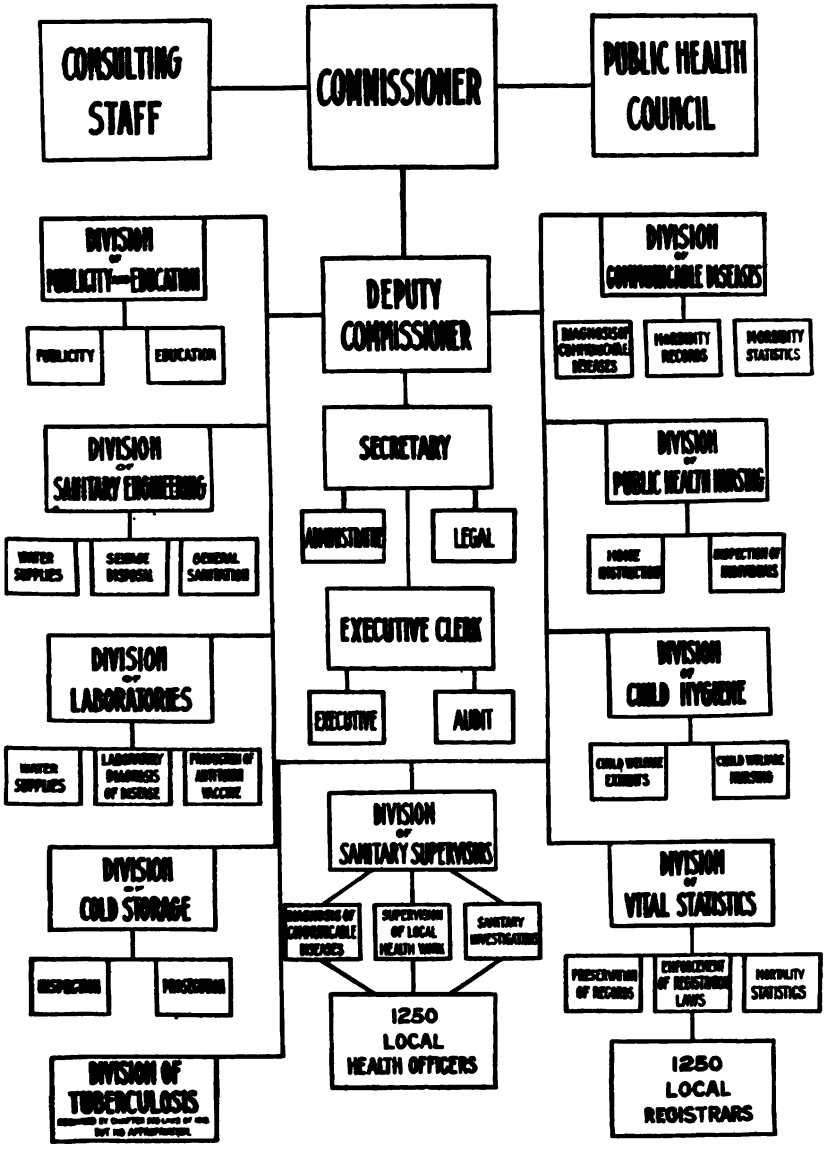
Finally, as far as the local Health Officer is concerned, the ne Public Health Law has made important changes in his status. requires from him a great number of new duties, such as the maki of an annual sanitary survey and the enforcement of the new sanita code, and on the other hand it insures to him a reasonable, although no means a liberal compensation by providing a minimum salary not less than ten cents per annum per inhabitant for cities, towns a villages having a population of 8,000 or less and a minimum of $8 for larger communities.

The law at the same time guards against inefficiency on the part the local Health Officer by providing that he may be removed for j cause by the State Commissioner of Health or by the local Board, w the approval of the State Commissioner.

The organization of the New York State Department of Healt illustrated by the accompanying diagram, which shows the relati between the Public Health Council and the State Commissioner Health, and his consulting and administrative staffs.

Digitized by Google

STATE DEPARTMENT OF HEALTH



Digitized by Google

The Public Health Council and the Sanitary Code

The Public Health Council, consisting of the Commissioner of Health and six other members, was appointed by the Governor on June 27, 1913, and since its creation it has established qualifications for Directors of the Divisions of Tuberculosis, Vital Statistics and Child Hygiene, for the State Sanitary Supervisors and for public health nurses and supervising public health nurses and has enacted seven chapters of a state-wide sanitary code.

In the framing of this sanitary code, the council steadily aimed to secure to the citizens of the State all the advantages which science and experience, especially during the last quarter of a century have offered in the prevention of disease and in the promotion of the common welfare, with the least possible interference with the business, comfort and convenience of the people concerned.

The requirements of the chapter of the code on the prevention of the spread of disease and the suppression of epidemics sum up the practical achievements of many years of scientific discovery and experience by certain precautions and regulations which center in intelligent cleanliness. The older and most of the existing sanitary codes have much to say about quarantine and disinfection. This code centers attention on the care of waste material from sick people and others who harbor disease germs and the proper modes of simple cleanliness which protect the well and make quarantine and elaborate disinfection, with their attendant expense and annoyance, largely unnecessary.

The council next took up the subject of the control of the milk supplies of the State. This is especially important because milk more commonly than any other article of food is liable, if improperly secured or handled, to afford a breeding place and distributing medium for disease germs, which through neglect of cleanliness and care readily contaminate it and may give rise to serious and often widespread disease.

The principal features of these milk regulations are that retail milk dealers are required to obtain a permit from the local health officer; that all milk must be graded according to the score of the dairy, and, in the higher grades, to the bacterial count of the milk; and that all milk must be sold under one of the specified grades, thus indicating to the consumer the quality of the milk which he buys.

The importance of the regulation of the practice of midwives, who attend a large percentage of the births in the State, was early brought to the attention of the council. The ignorance, incompetence, carelessness and uncleanly habits of many midwives are directly responsible

Digitized by Google

for a large part of the avoidable mortality and preventable blindness of infants and an appalling number of injuries and deaths of mothers. By a special chapter of the code on midwives, all midwives are required to be licensed by the State Department of Health, certain qualifications for a license are established and regulations for practice provided.

The existence throughout the State, especially at certain seasons of the year, of a large number of labor and construction camps creates a peculiar and difficult factor in the health work of the State. These camps are not readily subject to adequate control by the local health authorities but are nevertheless a source of serious danger through the pollution of water supplies and otherwise. A chapter of the code, relating to labor camps, was therefore established.

The question of the suppression and removal of nuisances has often been the bane of the local health officer's administration. The council believes that this is largely due to doubt on the part of the local health authorities as to their duties and powers under the law.

The Public Health Law places this duty on the local boards of health, but gives power of the supervision to the State Commissioner of Health. The council felt that it would be desirable to assist the health officer so far as possible in the duty with which he is charged of using his best endeavors, including such moral force as he can bring to bear, to alleviate conditions which amount to nuisances affecting health.

As the method of dealing with nuisances by the local boards is prescribed by the Public Health Law, the provisions of the code in this respect are merely declaratory of that law and provide a definite procedure whereby the local and State health authorities can efficiently perform the respective duties laid upon them by the Legislature in the suppression of nuisances. The council believes that when the machinery provided by this regulation is put into effect it will be a means of affording much needed relief to a very large number of the inhabitants of the State.

This last chapter of the sanitary code thus far enacted by the council is entitled "Miscellaneous." This chapter includes regulations, similar in substance to those in force in the more enlightened states and cities of the country, relating to *spitting*, the *common drinking cup*, the *common towel*, and *barber shops*.

Division of Administration

The Division of Administration maintains a general supervision over all the work of the Department; supervises the clerical force, and controls the expenses of the Department incurred by the various Divisions.

Digitized by Google

Under the direction of the Division of Administration a Public Health Manual was prepared, which contains all the Laws of the State relating to health, and also the Sanitary Code. This has been prepared in a handy pocket sized volume.

The Division has also prepared and sent out a number of Bulletins of official instructions to health officers, which are given on pages 14–31.

With the reorganization of the Department a number of employes were definitely assigned to different Divisions, as previous to this administration some employes performed work in two or more Divisions.

The total number of pieces of first class mail matter received at the main office of the Department during the year 1913 was 61,913. During 1914 there were received 89,356, an increase of 27,443 or 44 per cent.

The total number of pieces of first class mail matter sent out from the Department during 1913 was 83,490, and in 1914, 130,842—an increase of 47,352 or 57 per cent.

The total number of miscellaneous shipments, second class and parcel post in 1913 was 141,663, and in 1914, 264,591—an increase of 122,928 or 88 per cent.

Notwithstanding the large increase in the working force of the Division of Administration, to properly handle the work, some of the employes were required to work overtime every day during the past year, and this is also true at the present time. The official time record of the employes of the Division shows that the overtime put in equals 145 working days.

The net overtime devoted to Department business by the employes of the various divisions, after deducting all absences, equals the time required of three employes working full time.

The total expenditures of the Department during the past fiscal year were $284,676.85. Fees received and deposited with the State Treasurer were $2,148.60.

A summary of the expenses and receipts follows:

Summary of financial statement

Recapitulation

Division of Administration — salaries		$28,364 9
Division of Publicity and Education — salaries		3,466 1
Public Health Council:		
Salaries	$5,646 24	
Expenses	1,381 23	
		7,027 4

Digitized by Google

Division of Sanitary Engineering:		
Salaries	$13,659 63	
Expenses	1,348 90	
		$15,088 53
Division of Laboratories:		
Antitoxin — salaries	$9,119 13	
Antitoxin — expenses	7,706 10	
		16,825 23
Hygienic — salaries	$11,781 61	
Hygienic — expenses	5,626 51	
		17,408 12
Ophthalmia neonatorum:		
Salaries	$617 90	
Expenses	3,113 35	
		3,731 25
Purchase of farm		9,500 00
Division of Cold Storage Inspection:		
Salaries	$20,143 92	
Expenses	10,104 67	
		30,248 59
Division of Communicable diseases — salaries		8,100 00
Division of Child Hygiene — salaries		2,666 56
Suppressing epidemics, etc.:		
Salaries	$48,479 54	
Expenses	27,547 79	
		76,027 33
Division of Vital Statistics — salaries		15,060 76
Temporary services		1,615 18
Office expenses		14,420 78
Birth, marriage and death registers, etc		14,912 11
Investigations		9,828 79
Postage and transportation		875 98
Traveling expenses:		
General	$7,742 47	
Commissioner	735 12	
Deputy Commissioner	1,111 53	
		9,589 12
		$284,676 85

Receipts

Fees received	$2,148 60

Digitized by Google

Official Bulletins Issued to Health Officers

Numbers of official instructions have been sent out to health officers on various matters during the past year, referring to communicable diseases, vital statistics, laboratory work, sanitary code and other administrative matters. They follow, classified according to date rather than to subject:

Official Bulletin No. 1 — Smallpox, Niagara Falls
Official Bulletin No. 2 — Smallpox, Niagara Falls
Official Bulletin No. 3 — Infant Mortality
Official Bulletin No. 4 — Vital Statistics
Official Bulletin No. 5 — Vaccination
Official Bulletin No. 6 — Chickenpox
Official Bulletin No. 7 — Milk for Infants
Official Bulletin No. 8 — Prompt Returns of Births and Deaths
Official Bulletin No. 9 — Removal of Health Officers
Official Bulletin No. 10-a — Reporting of Communicable Diseases
Official Bulletin No. 10-b — Reporting of Communicable Diseases
Official Bulletin No. 11 — Primary District Number
Official Bulletin No. 12 — Certification of Reports of Communicable Diseases
Official Bulletin No. 13 — New Statement Cards, V. S.
Official Bulletin No. 14 — Vaccination Statistics
Official Bulletin No. 15 — Sanitary Code
Official Bulletin No. 16 — Notification of Sanitary Supervisors in case of Epidemic
Official Bulletin No. 17 — Reporting of Communicable Diseases

JANUARY 28, 1914

OFFICIAL BULLETIN No. 1

Dear Doctor.— During the year 1913 there were 823 cases of smallpox in New York State. In the large cities of New York, Buffalo and Rochester, with a population of over 6,000,000 people, where the law compelling the exclusion of unvaccinated children from school has been rigidly enforced, there have been only 39 cases of smallpox — mostly imported.

Smallpox now exists in epidemic form in Niagara Falls, where there is a widespread sentiment against vaccination, and there has been a number of cases reported in that vicinity. You are warned of the possibility of the development of smallpox in Niagara Falls, or of persons who have visited that city, who may come under your jurisdiction. The State Department of Health advises that all cases

Digitized by Google

chickenpox that are reported to you, as well as cases suspected as smallpox, be examined by a representative of the Health Department of your community, and in case of doubtful diagnosis the State Department will be glad to send an expert. The cases of smallpox in the present epidemic have been of a mild type, but in unvaccinated communities there is every possibility of this epidemic becoming far more serious.

Your attention is called to the fact that the law excluding unvaccinated school children from school has been very largely enforced throughout the State. A copy of this law is enclosed. Will you not bring this matter to the attention of your school trustees, and will you not also urge upon the citizens of your community the importance of vaccination, so that the entire State may be protected; and for those individuals who are unable to pay for vaccination, will you not see that facilities for free vaccination are afforded by your local board of health?

Report to me weekly the total number of free vaccinations performed by you, and the total number in your community.

Cases of smallpox have been reported from the following communities from January 1, 1914 to January 27, 1914:

Chautauqua county: Arkwright 3; Dunkirk 1; Ellington 1; Gerry 2; Sinclairville 19; Stockton 1; Villenova 1.

Erie county: Buffalo 4.

Herkimer county: Dolgeville 7.

Montgomery county: Canajoharie 2.

Niagara county: Lewiston 2; North Tonawanda 9; Youngstown 4; Niagara Falls 154.

Yours very truly,

HERMANN M. BIGGS
Commissioner of Health

FEBRUARY 13, 1914

OFFICIAL BULLETIN NO. 2

To Health Officers and Boards of Health:

Gentlemen.—Smallpox now exists in epidemic form in Niagara Falls, and new cases in nearby places are almost daily coming to the attention of the department. Twelve cases in nearby out-lying towns which had not been reported were discovered by a representative of the department a few days ago, and in two other towns, eight were found which had been diagnosed as chickenpox. Some of these were of a severe type and recovery is uncertain.

Digitized by Google

This condition of affairs must not continue. Every case of smallpox or chickenpox, as well as every other case of any reportable disease, *must be promptly* reported to the local health officer, as required by law.

You are hereby directed to at once take active measures to secure the prompt report of every case of infectious disease occurring in the territory under your jurisdiction, and to report the same to the State Department of Health as required by law. It is the duty of every physician, nurse, teacher, clergyman, householder, employer, police officer, hotel or lodging house keeper, head of a family or other person who has knowledge of any such case to report it to the health officer.

Upon being informed of the existence of a case of any contagious disease you are further directed to at once adopt such measures as are necessary to prevent its spread.

In dealing with smallpox you are directed to take the following action:

1 Every case diagnosed as smallpox shall be immediately isolated and kept isolated until the patient has fully recovered and all danger of the transmission of the disease has passed. If an isolation hospital is available within your jurisdiction every such case must be immediately removed there. Health officers have full power to cause such removal by force.

2 Every suspected case of smallpox should be isolated until a definite diagnosis has been made, and all exposed persons should be at once vaccinated.

3 Every person known to have been exposed to smallpox (contacts) should be immediately vaccinated. If the vaccination is within forty-eight hours of the time of the *first* exposure the person may be required to report for observation daily to the health officer, or to someone designated by him, until the vaccination takes or until a period of sixteen days from the *last* exposure has elapsed. If the first vaccination is not successful, all such persons should be revaccinated. These persons need not be quarantined if they are seen daily, and immediately isolated on the appearance of any symptoms.

4 All persons exposed to smallpox who have *not* been recently successfully vaccinated and whose first exposure antedates forty-eight hours, and who are immediately vaccinated, should be isolated and quarantined until the vaccination has definitely taken (for at least one week), or if the vaccination fails until the full period of incubation of smallpox (16 days from the last exposure), has elapsed.

Digitized by Google

5 All persons exposed to smallpox, who have been vaccinated recently with a successful result, may be immediately discharged from observation.

6 All persons known to have been exposed to smallpox and who refuse vaccination, should be strictly quarantined for 16 days, from the date of the last exposure.

7 A record should be kept of the names and addresses of all exposed persons, the action taken with reference to each, the date of vaccination, the dates of observation, with notes of the results of vaccination (whether successful or not), and when revaccination is done, the date of this.

8 When a person suffering from smallpox is quarantined in a house or apartment a record should be made of the name and age of every person living in the house and there quarantined, and their presence in the house should be verified daily.

9 If any person under quarantine escapes from observation, every effort should be made to determine where such person has gone and immediate notification made to the Department of Health at Albany.

10 During the prevalence of smallpox in the State the diagnosis of every case of chickenpox reported to you should be confirmed by a representative of the local health department, and such cases should be immediately reported to the Department of Health at Albany. In any case where the diagnosis is doubtful the patient should be immediately isolated, all exposed persons should be vaccinated, and the State Department of Health notified.

11 You are requested to make a weekly report to the Department of Health of the number of vaccinations performed by you and also the number performed by others in your district, so far as known to you.

12 If the law excluding unvaccinated persons, whether school children or teachers, from the schools under your jurisdiction has not been enforced, you are requested to notify the State Department of Health and to direct the attention of the school authorities of the district to this fact.

A campaign of education concerning the benefits of successful vaccination should be inaugurated in your district and carried on with vigor. This can be accomplished only by a strict compliance with these directions and by the practice of general vaccination, especially of all persons living in those sections of the State where smallpox is prevailing.

Yours very truly,

HERMANN M. BIGGS

Commissioner of Health

Digitized by Google

FEBRUARY 13, 1914

OFFICIAL BULLETIN No. 3

Dear Doctor.—A most important duty of the health officer is the reduction of the infant mortality in his community. It should be a matter of grave concern that the infant mortality in this State outside of New York City is increasing. In New York City in 1904 the infant death rate was 162 per one thousand living births and it has steadily decreased until this year it is less than 100. On the other hand, the rate in the State *outside* of New York City has only fallen 14 points since 1904 or to 121 this last year. This difference is more startling when the congested conditions of living in New York City are considered.

A State-wide campaign to reduce this mortality will be inaugurated and the results obtained in New York City must be duplicated throughout the State.

The new Health Law established a division on child hygiene which will cooperate with you in your efforts to lower infant mortality in your district. In order that we may do this effectively, will you kindly send me a brief outline of the infant welfare work under your care? It is also desirable to ascertain as soon as possible the names and officers of organizations or societies now definitely engaged in infant welfare work in your vicinity. If there are no agencies directly engaged in infant welfare work, will you be kind enough to give the names of people who may be sufficiently interested to cooperate with you in establishing infant welfare stations?

Will you kindly fill out the enclosed blank and return as promptly as possible to this department? Any suggestions that you may have regarding this line of work and the conditions existing in your locality will be welcome.

Very truly yours,

HERMANN M. BIGGS
Commissioner of Health

By Director, Division of Child Hygiene

Digitized by Google

OFFICIAL BULLETIN No. 4

Warning to Registrars of Vital Statistics

Section 393 of chapter 619 of the Laws of 1913 requires local registrars of vital statistics to enforce strict compliance with the provisions of said act. Registrars are required to make the registration of births and deaths complete, and forward the original certificates recorded in their office to the State Department of Health on or before the fifth of each month.

A considerable number of registrars are failing to file their monthly returns with the Department within the time prescribed by law. Failure on the part of local registrars to comply with the law hereafter will warrant the State Commissioner of Health in summarily removing them from office. Local registrars are also subject to the penalties prescribed by Section 392 of said act.

All provisions of the law must be strictly enforced. If any physician, midwife or undertaker residing in your district has failed to register with you as required by Section 385, you should notify them to comply with the law at once, and should they fail to register with you within three days after receiving such notice, you should report to the State Department of Health their names and addresses accompanied by an affidavit stating that they have failed to register with you as required by law, so that we may place in the hands of the District Attorney of your county the necessary evidence upon which to base successful prosecution.

Any violation of the law on the part of a physician, midwife or undertaker should be brought to the attention of the State Department of Health with proper affidavit to insure prompt action on the part of the various district attorneys who are required to forthwith prosecute such violations.

You should see that only such forms as are prescribed by this Department are used in reporting births and deaths. Certificates of deaths made out on any form other than that prescribed by this Department must not be accepted by local registrars or subregistrars, and no burial permit should be issued until you have received a complete and satisfactory certificate made out on the form prescribed by this Department.

Parents of children not named at the time the original certificate of birth is filed with the registrar should be provided with a supplemental birth report blank, and notified that failure to file the same with the local registrar when the child is named subjects them to a fine of five dollars as provided by Section 392.

Digitized by Google

Enclosed is a blank to be used in filing with the State Department of Health a complete list of the names and addresses of physicians, midwives and undertakers who have registered with you.

You should also file with this Department official notice of your appointment as registrar if you have not already done so.

HERMANN M. BIGGS,
Commissioner of Health

MARCH 23, 1914

OFFICIAL BULLETIN NO. 5

Vaccination

To the Health Officers of New York State:

Dear Doctor.— The enclosed bulletin on vaccination has just been issued by the State Department of Education and a copy has been sent to every school trustee, superintendent and principal. This bulletin containing detailed information for the enforcement of the School Vaccination Law has been sent to the school authorities with the approval of the State Department of Health.

The health officers have been zealous in their efforts to see that vaccination was performed as a preventive measure against smallpox, but have met a great deal of opposition in certain localities. No opposition is made in the larger cities, because the law has been enforced for years, and it is the earnest desire of this Department that the educational authorities see that the law is enforced in the smaller cities, villages and towns, as well as in the larger ones.

At the present time the number of cases of smallpox in the State is much lower than it was a month ago, due to the redoubled efforts on the part of the health officers to control the disease. The agreement states that the school authorities in districts where smallpox is not present or has not been present during the current school year may waive the enforcement of the law until vacation time, but we urge that as many individuals as possible be vaccinated before the Easter vacation.

Yours very truly,

HERMANN M. BIGGS
Commissioner of Health

Digitized by Google

MARCH 23, 1914

OFFICIAL BULLETIN NO. 6

Chickenpox

To the Health Officers of New York State:

Dear Doctor.— Chickenpox or varicella is a communicable disease, mild in character but extremely contagious, and would be of little importance were it not for the frequency with which it is confused with mild smallpox, errors in diagnosis causing severe epidemics of smallpox.

The mildness of chickenpox, which usually does not disfigure the patient, and which is seldom fatal, has led many persons to disregard all precautions when a member of the family has been attacked. Many persons wilfully expose their children to the infection, owing to the false idea that all must contract the disease some time during life. The diagnosis between chickenpox and smallpox is often difficult even to those who are especially familiar with these diseases. Parents and guardians should never attempt to make their own diagnosis in cases of supposed chickenpox.

Chickenpox, unlike smallpox, is not preceded by a three day illness, but the mother or nurse notices an eruption on the child's body, usually vesicular in character when first observed, although it begins as reddish macules which disappear as the vesicles fill. In some cases there may be a few hours preceding the eruption that the child may be irritable and slightly ill. In exceptional cases there may be one or even two days' illness with fever preceding the eruption.

The eruption of chickenpox, which appears slowly, usually attacks the body first, while that of smallpox generally is first seen on the face and wrists. At the end of forty-eight hours lesions in close proximity to each other will be found in all stages of development — macules, papules, vesicles and crusts. There may be successive crops of the eruption causing the disease to last ten or twelve days before the crusts all fall and the skin becomes clear of the eruption. All cases should be isolated and in the case of an adult it should be treated as a suspicious case of smallpox until the diagnosis is fully confirmed by one who is competent to determine the nature of the malady.

In all cases where the diagnosis is doubtful and in all cases occurring in adults, the State Department of Health will send an expert to confirm the diagnosis.

Yours very truly,

HERMANN M. BIGGS

Commissioner of Health

Digitized by Google

MARCH 28, 1914

OFFICIAL BULLETIN No. 7

Milk for Infants

To the Health Officers of New York State:

Dear Doctor.— When a mother is so unfortunate as to be unable to nurse her baby, some substitute must be used. Clean cow's milk is the best substitute.

In hot weather, unless very carefully collected and handled, and rapidly cooled and kept cool, milk quickly undergoes changes which render it unfit for infant's food. In large cities "Certified" milk can be obtained by those who are able to pay for it; in the smaller cities this is not possible.

To render ordinary loose milk fit for babies in hot weather, it should be pasteurized. Have you any facilities for pasteurizing milk or for furnishing a milk which is the equivalent of certified milk? If not, will you not at once take such action as seems most advisable to furnish such a milk in your community and advise this department of what you have done in this matter?

Yours very truly,

HERMANN M. BIGGS

Commissioner of Health

APRIL 27, 1914

OFFICIAL BULLETIN No. 8

Prompt Returns of Births and Deaths

To the Registrar of Vital Statistics:

Dear Sir.— The law requires local registrars to forward their returns of births and deaths for each month on or before the fifth day of the following month. See Official Bulletin No. 4, a copy of which was recently sent you and which should be on file in your office.

There are 1,438 separate registration districts in the State. On April 16, about ten days after the returns should have been complete, reports for the month of March were still wanting from 65 districts.

Please mail your returns for the month of April on May 5 without fail. Do not mail them before May 5 unless you are certain that all births and deaths that occurred in your district during April have been registered with you. The interval is necessary so that births and deaths that occurred during the last days of the month may be included.

Digitized by Google

You are also charged with the duty of making the registration of births and deaths complete for your district. Please note any unregistered births or deaths on the back of your monthly statement card. The name of the decedent or child should be given, name and address of delinquent undertaker, physician or midwife, date of birth or death, and statement of any efforts on your part to procure the registration.

Very respectfully,

HERMANN M. BIGGS
Commissioner of Health

By CRESSY L. WILBUR, M. D.,
Director, Division of Vital Statistics

JULY 16, 1914

OFFICIAL BULLETIN NO. 9

To the Health Officers:

The Department has recently been obliged to institute proceedings for the removal of two health officers: Dr. Byron J. Ormsby of the town of North Norwich, Chenango county, and Dr. Lyman E. Rockwell of the the town of Amenia in the county of Dutchess. These proceedings resulted in each case in the resignation of the health officer.

The charges preferred by the department against Dr. Ormsby were, substantially — that he failed to report diphtheria on a dairy farm in the manner required by the sanitary code; that, although the cases were not properly isolated and although persons still affected with diphtheria, from whom two negative cultures had not been received, were allowed to handle the milk, yet he permitted it to be sold; and that he falsely certified to the Health Department of New York city, to which the dairy produce was shipped, that proper quarantine was observed. Dr. Ormsby resigned before the date set for the hearing.

In the case of Dr. Rockwell of Amenia, the charges were that he failed to isolate a school teacher affected with diphtheria, but permitted her to return to school when the only culture taken had been reported positive, and that he falsely stated to the local board of education and to others that the culture had been reported negative by this Department. At the hearing given the health officer to show cause why he should not be removed, he admitted the truth of the charges, but on account of his age he was permitted to resign.

Both of these cases, of course, involved not only serious infractions of the sanitary code, but such gross negligence as to amount to an actual menace to public health. In future, health officers, thus violating

Digitized by Google

the Public Health Law or the sanitary code, will not only be removed and the facts published, but they will also be prosecuted. While there may be occasional excuses for others, there can be none for the health officer who deliberately violates the very regulations which it is his duty to enforce. Such dereliction in duty and gross incompetence deserve and will receive no condonation.

The department is jealous of the good repute of the health officers as a corps of efficient and conscientious public servants, and, when the great majority throughout the State are rendering valuable service to the community in the prevention and control of disease, the department does not propose to allow the office to be belittled in public estimation by the criminal negligence of a few incompetents. I feel sure that most of those to whom this bulletin is addressed will be the first to approve the stringent enforcement of high standards of efficiency and attendance to duty.

Yours very truly,
HERMANN M. BIGGS
Commissioner of Health

JULY 22, 1914

OFFICIAL BULLETIN No. 10-A.

Dr. ....., Health Officer,
(City)

SIR.—In the future it will not be necessary for you to file with this department a monthly report of cases of communicable diseases occurring within your jurisdiction.

The daily reporting, however, of such cases on the general report cards is still required.

Respectfully yours,
HERMANN M. BIGGS
Commissioner of Health

Sent to health officers of first, second and third class cities.

JULY 22, 1914

OFFICIAL BULLETIN No. 10-B

To the Health Officer:

SIR.—Within the past two months several epidemics of communicable disease have occurred through the failure of a health officer promptly to report the first case.

Digitized by Google

Your attention is drawn to section 25 of the Public Health Law, as amended by chapter 559 of the Laws of 1913, providing that every local health officer shall report to the State Department of Health promptly all cases of such communicable diseases as may be required by said department.

You are hereby required to report to this department every case of communicable disease reported to you, within twenty-four hours of the receipt of such report.

You will make this report by countersigning and forwarding to the department the official card furnished by this department for the reporting of communicable diseases by the physician in attendance. Where there is no physician in attendance or where you are yourself in charge of the case, that fact should be indicated in the proper place on the card.

Monthly reports of cases of communicable disease are no longer required; *except* that when no case of communicable disease has been reported to you during the month, you are directed to file with this department a statement to that effect on or before the fifth day of the succeeding month.

The prompt and accurate reporting of communicable diseases is the basis of all efficient measures of prevention and control of epidemics. As it is only by such means that the department can be of maximum service to the local health authorities and to the people of the State, I earnestly solicit your cooperation in securing this end.

It is my intention to enforce strict adherence to these requirements. Health officers who persist in violating the law will be removed.

Respectfully yours,

HERMANN M. BIGGS
Commissioner of Health

JULY 22, 1914

OFFICIAL BULLETIN NO. 11

Dr. ....., Health Officer,
....., N. Y.

Dear Doctor.— Some of our report cards on communicable diseases ask for the primary district number. All communicable disease report cards will ask for this number as soon as a new supply is printed.

The primary district number for your City / Village / Town is ..... Please

Digitized by Google

put this number on all report cards. If you are health officer of more than one town or village, please be sure to use the number which corresponds to the residence of the patient. This is the same number that is used by the registrar of vital statistics. You should remember it as you do your telephone number.

Yours very truly,

HERMANN M. BIGGS

Commissioner of Health

AUGUST 13, 1914

OFFICIAL BULLETIN No. 12

To the Health Officers of Villages and Towns:

SIR.— I am directed by the commissioner to inform you that hereafter no reports of cases of communicable disease, which are not filed with this department within 24 hours after the receipt of such report by the health officer, will be certified as having been made.

Respectfully yours,

DELANCEY K. JAY

Secretary

AUGUST 25, 1914

OFFICIAL BULLETIN No. 13

New Statement Cards

To all Local Registrars of Vital Statistics:

Herewith please find several copies of the new monthly statement card (form VS No. 2). Please destroy at once all copies of the old cards (form 21) now in your possession. Read the new card carefully and see that a copy, properly filled out, accompanies your report for August, which should be mailed promptly on September fifth (5th).

The returns for July were made more promptly than ever before. Please accept the cordial thanks of the department for your punctuality.

A few registrars mailed their reports too early, that is to say, before the fifth. Please do not do this; certificates must be given the full five days to come in to the local office.

A very few registrars mailed their reports late; in some cases too late to be included in the monthly compilation. They will lose compensation for such delayed reports. We regret to make deductions,

Digitized by Google

but the law is mandatory. It will be strictly carried out in this and other respects. If physicians or midwives fail to report promptly to you, do not delay your reports to the department. Simply fill out a blue blank (form VS No. 4) and mail report on time.

It appears that in some localities health officers and others, not being local registrars, deputy local registrars, or duly appointed subregistrars, are receiving certificates and issuing burial permits. This is contrary to law and must be discontinued at once. Your September returns will be carefully examined in this respect and any certificate upon which any person issued a permit without legal authority will be deducted from those certified for compensation.

The law demands "a perfect system of registration." It has been said that "trifles make up perfection, but perfection is no trifle." With your help — and your cordial, earnest cooperation is absolutely essential — we shall soon have a perfect, or practically perfect, system in this State. "Instructions for Registrars," with some important new blanks for legal corrections, etc., will reach you soon. Read the Health News for suggestions.

Very respectfully,

CRESSY L. WILBUR, M. D.,
Director, Division of Vital Statistics

NOVEMBER 10, 1914

OFFICIAL BULLETIN NO. 14

To the Health Officers:

Dr. ....., H. O.,

.....

Dear Doctor.—We have learned from verbal reports and other communications that a very large number of vaccinations have been performed in New York State since last January.

Insofar as is feasible for statistical purposes, we would like to tabulate approximately the total number of vaccinations performed in different parts of the State. Will you therefore kindly fill out and mail to the Department of Health, as soon as possible, the following blank?

Yours very truly,

HERMANN M. BIGGS
Commissioner of Health

Digitized by Google

HERMANN M. BIGGS, *Commissioner of Health, Albany, N. Y.:*

DEAR SIR.—I have made and know of the following number of vaccinations in my jurisdiction since January 1, 1914:

MONTH	Number done by myself	Number done by other physicians	MONTH	Number done by myself	Number done by other physicians
January	.....	.....	July	.....	.....
February	.....	.....	August	.....	.....
March	.....	.....	September	.....	.....
April	.....	.....	October	.....	.....
May	.....	.....	November	.....	.....
June	.....	.....	.....	.....	.....

Very truly yours,

.....

Health Officer of .....

Address .....

....., 1914

OCTOBER 31, 1914

OFFICIAL BULLETIN NO. 15

To the Health Officers:

Dear Doctor.—I enclose a printed copy of the amendments to chapter three of the sanitary code recently enacted by the Public Health Council.

Pursuant to the provisions of this chapter, I have prescribed the form of application for a milk dealer's permit; of the score card, and of the permit itself. A copy of each of these forms is enclosed. It is essential that all applications for permits be made substantially in the form prescribed; that all dairies be scored in this prescribed form, and that the enclosed form be used in issuing permits.

In enforcing the provisions of this chapter, I wish to remind you that to obtain the best results in the education of the farmer and the dealer in the production and handling of milk, great discretion and tact and good judgment will be necessary, especially in the beginning, in scoring dairies. It would be well not to be too stringent at first, but to point out to the farmer or dealer existing defects, especially the minor ones which can be easily remedied, and advise him that you will make subsequent examinations and that these subsequent inspections will be more rigid.

After the issuance of the permits where it is evident that a violation of the regulations is due to ignorance of the requirements on the part

Digitized by Google

of a farmer or dealer, you should explain the regulation carefully to him, pointing out the reason for it, and should warn him that a future violation will necessitate more stringent action.

While it is the department's intention to see that these regulations are actively enforced throughout the State, yet the department wishes to give the producers and dealers every reasonable opportunity of familiarizing themselves with the provisions of the code and desires to lead and educate rather than to force them to compliance with their provisions.

Your attention is called to Regulation I of this chapter which makes a permit necessary for the sale of milk or cream at retail in every city, village or town, on and after November 16, 1914.

Respectfully yours,

HERMANN M. BIGGS
Commissioner of Health

NOTE — Owing to lack of appropriations the Department cannot furnish more than a sample form of each blank. The local authorities may have these blanks printed or may purchase them from the State Printer, J. B. Lyon Company, Albany, N. Y.

NOVEMBER 7, 1914

OFFICIAL BULLETIN No. 16

To the Health Officers:

Dear Doctor.— Chapter 559 of the Public Health Law provides that the sanitary supervisors shall aid each local health officer, particularly on the appearance of any contagious disease.

If you will immediately notify your sanitary supervisor of the appearance of any threatened outbreak of contagious disease, it will insure his prompt and efficient aid in preventing the spread of contagion.

It is not necessary to inform him of each case that occurs, although he will always be glad to know about it, but whenever any contagious disease occurs more frequently than usual or than it normally should, as compared with the records of previous years, the sanitary supervisor should be informed.

It is of especial importance that outbreaks in dairies, among food handlers, in schools, institutions, or other places where large groups of people may be exposed to infection, or in any place where the water supply may become polluted, should be promptly and efficiently supervised.

Very truly yours,

HERMANN M. BIGGS
Commissioner of Health

Digitized by Google

DECEMBER 16, 1914

OFFICIAL BULLETIN No. 17

To the Health Officers:

Dear Doctor.—A determined effort has been made by this department to insure prompt reporting of cases of communicable disease. Several official bulletins and circulars have been issued to this effect. Your attention is particularly called to official bulletins Nos. 2, 9, 10-b and 12. While the department believes that most health officers are reporting their cases promptly and are in other respects observing the provisions of the sanitary code and of the Public Health Law, yet there have been many instances where, a health officer's attention having been called to a violation of the code or to a failure to report, he has given as an excuse that he did not know he had to report or that he had never heard of the regulation in question.

Such alleged excuses cannot of course be accepted by this department, and in my official bulletin No. 9 I stated as follows: "In future, health officers, thus violating the Public Health Law or the sanitary code, will not only be removed and the facts published, but they will also be prosecuted. While there may be occasional excuses for others, there can be none for the health officer who deliberately violates the very regulations which it is his duty to enforce. Such dereliction in duty and gross incompetence deserve and will receive no condonation."

The department recently learned that a health officer had not reported a case of smallpox for over five weeks and, as he had taken no steps to vaccinate or quarantine the contacts, the result was that there were cases which might have been prevented if he had reported promptly to the department, which would of course have seen that these necessary precautions were taken. His excuse was that it had not occurred to him that he should report a case of smallpox.

The department is well aware that the vast majority of health officers have studied and given careful attention to the Public Health Law and to the new sanitary regulations in the code, but in order to make it impossible for such reasons to be advanced in the future, all health officers are required to sign and return the enclosed blank before December 28, 1914.

Respectfully yours,

HERMANN M. BIGGS

Commissioner of Health

Digitized by Google

NEW YORK
STATE DEPARTMENT OF HEALTH
ALBANY

DECEMBER, ..., 1914

HERMANN M. BIGGS, M. D., *Commissioner of Health, Albany, N. Y.:*

SIR.—I have carefully read the first five chapters of the sanitary code and am aware that cases of the communicable diseases designated therein must be reported by me to the State Department of Health within twenty-four hours of the receipt of such report.

I have also read carefully sections 20 to 21-c; 25; and 319 to 334 of the Public Health Law.

Respectfully,

.....

Health Officer *Town/Village of .....

Division of Vial Statistics

The efficient collection and utilization of vital statistics is an integral part of the work of the State Department of Health, especially since its reorganization under new and improved legislation.

The vital statistics law proper, which constitutes a revision of the legislation formerly in effect, is in accord with the most approved legislation in this country. It provides primarily for the appointment of local registrars in each city, village and town (township) of the State, who are required to exercise strict supervision over their individual districts and return on the fifth day of each month to the State Department of Health at Albany all original certificates of the births and deaths that occurred during the preceding calendar month. If no births or no deaths occurred, they are required to report to that effect, so that the State Health Department may be assured that the returns are complete. Local registrars receive twenty-five cents for each complete and promptly reported certificate on warrant from the State Commissioner of Health.

The data thus returned are also employed for the annual compilation of vital statistics, and transcripts of the original records supplied to the

* Cross out word which does not apply.

Digitized by Google

Federal Census form the basis of the mortality statistics representing New York in the Government reports.

The original certificates of births and deaths are permanently preserved at Albany. The names of children and decedents are indexed so that certified copies or statements as to age can be supplied upon request. On account of the provisions requiring a statement of age for entrance to school and for employment of children, there is a large demand for certificates of age. Complete certified copies are also required for many legal purposes.

Besides the records of births and deaths, copies of marriage licenses and returns are also received and indexed.

Division of Laboratories and Research

The Laboratory of the Department distributes to health officers and also to physicians of the State through the health officers and supply stations, outfits for mailing specimens for diagnosis and preparations of antitoxin, typhoid vaccine and silver nitrate, 1 per cent. solution, used in the prevention or cure of communicable diseases The Laboratory also examines samples of water or investigates special problems on the request of health officers when approved by their sanitary supervisor.

The outfits supplied for diagnostic purposes include a blood serum tube and a swab for taking cultures from the nose and throat in suspected cases of diphtheria; a jar for sputum from patients thought to be affected with tuberculosis; aluminum plates for blood to be examined for the Widal reaction in typhoid fever; glass slides and other necessary material for obtaining blood and discharges for the diagnosis of malaria, gonorrhea and syphilis; and special outfits for typhoid feces, tissues and smears for special examinations.

The therapeutic and prophylactic preparations furnished include diphtheria antitoxin and syringes; tetanus antitoxin; silver nitrate solution for disinfection of the eyes of new-born infants; and anti-typhoid vaccine. Antirabic virus can be obtained free of charge through the Sanitary Supervisors from the United States Public Health Service or may be purchased from the New York City Department of Health.

The laboratory also makes chemical and bacteriological examinations of water samples at the request of local Health Officers when approved by the Sanitary Supervisors. Health Officers or Supervisors are required to make a careful sanitary examination of the sources of all samples to be examined and report on standard cards furnished by the laboratory.

Digitized by Google

A branch laboratory has been established in New York City in which the diagnostic examinations for the neighboring counties and for State institutions are conducted.

The establishment of another branch laboratory in the western part of the State is now under consideration.

The State Commissioner of Health, or his authorized representative, under regulation 44 of Chapter II of the Sanitary Code, has authority to inspect laboratories engaged in public health work. He may also advise persons in charge of such laboratories as to methods employed in examinations which in any way affect the public health. The municipal and county laboratories thus cooperate in the laboratory work of the Department throughout the State.

Municipal Laboratories engaged in some phase of public health work are established at Albany, Auburn, Binghamton, Buffalo, Cooperstown, Dobbs Ferry, Elmira, Gloversville, Hornell, Hudson, Mt. Vernon, Newburgh, Niagara Falls, Norwich, Olean, Poughkeepsie, Rochester, Schenectady, Syracuse, Troy, Tuxedo Park, Utica, Rome, Rockville Centre, Yonkers, Jamestown.

County Laboratories have been established as follows: Allegany County Laboratory at Belmont, Genesee County Hygienic Laboratory at Batavia, Livingston County Bacteriological Laboratory at Geneseo, Madison County Bacteriological Laboratory at Oneida, Monroe County Bacteriological Laboratory at Rochester, Onondaga County Bacteriological Laboratory at Syracuse, Ontario County Laboratory at Canandaigua, Steuben County Hygienic Laboratory at Corning, Ulster County Bacteriological Laboratory at Kingston, Warren County Bacteriological Laboratory at Glens Falls.

Division of Sanitary Engineering

Upon this Division rests primarily the important duty of conserving the purity of the streams and other bodies of water within the State. Many of these streams are used for public water supplies and along most of them are situated municipalities and industrial establishments which must of necessity discharge sewage and manufacturing wastes into them. It is very important that careful supervision be given to the conditions under which such sewage and manufacturing wastes may be discharged into these waters in order that public water supplies may not become infected and that nuisances may not occur below the points of sewage discharge.

The Public Health Law provides that no municipalities or factories shall discharge sewage or wastes into the waters of the State without a

Digitized by Google

permit from the State Commissioner of Health and that all plans for systems of sewerage in municipalities and factories must be approved by the State Department of Health before these systems of sewerage are constructed. The work of examining and reporting upon plans and of stipulating the requirements for sewage purification and other conditions upon which this sewage discharge is to be permitted, is an important part of the work of the Engineering Division. Most of the villages and larger municipalities of the State are provided with sewerage systems and many of them with sewage disposal plants such as the one at Batavia.

Provision is also made in the Public Health Law for the enactment by the State Commissioner of Health of rules and regulations for the protection of the watersheds of public water supplies against contamination from sewers, drains, cesspools, privies, barns and other sources. Rules and regulations are prepared by the Engineering Division and the necessary inspections and orders involved in their enforcement are carried out by the Division. Of the 500 public water supplies in the State about one-fifth are now protected by these rules and regulations.

Experience has shown that public water supplies cannot always be adequately protected against contamination even when rules and regulations are in force, and it is often necessary in these and other cases, as for instance where a municipality is located on a large river with other municipalities above it discharging sewage therein, to furnish additional protection by means of water purification. An excellent example of this method of protection is the sand filter plant at Albany. This plant is capable of removing all of the sewage contamination and other impurities from the polluted river water and furnishing one of the clearest and purest public water supplies in the State.

In addition to this work of supervising public water supplies and sewerage systems the Engineering Division has many other duties connected with Sanitary Engineering. One of these is the investigation of important public nuisances which are beyond the scope and resources of local boards of health, such as drainage of swamp lands, emission of gases and fumes from large industrial establishments and insanitary conditions of garbage rendering plants.

Another important problem is the sanitary condition of summer resorts for which the State of New York is noted. These resorts are frequented by a large number of people and in order that they may be made a safe source of recreation, a place to regain and not endanger health, the department has, through its Engineering Division, established a system of inspection and records which deal with the sanitary

Digitized by Google

conditions of each place with respect to water supply, sewage disposal, plumbing, garbage disposal, ventilation and milk supply. Of the 1,100 resorts already inspected by the Engineering Division, large numbers have been found to be insanitary in some respect and have been required to make the necessary changes to comply with standards set by the Department.

One of the new provisions of the Public Health Law requires that the State Department shall investigate and report upon the sanitary conditions of the various public institutions constructed and maintained by the State. There are some 150 of these institutions which include prisons, hospitals, reformatories, agricultural colleges and Indian reservations. The conditions investigated are largely sanitary engineering problems, such as those referred to above under summer resorts, and for this reason the investigations fall within the province of the Engineering Division. Many of these institutions have populations as large as some of our villages and the inspections involve considerable detailed work and engineering skill.

Other investigations and work of a regular or special nature devolve upon the Engineering Division, such as tests and reports on the sanitary condition and efficiency of sewage purification plants, investigations and reports upon the sanitary quality of water supplies, consultations and advice to local authorities upon sanitary questions and problems relating to water supply, sewerage and garbage disposal, etc. The work is largely technical, calls for the highest skill and experience and requires a regular force of seven engineers and four office assistants with headquarters at Albany and a field of activity covering the entire State.

Division of Child Hygiene

The children of to-day will become the citizens of to-morrow, and the Department of Health recognized the importance of this fact by the establishment of a Division of Child Hygiene in January, 1914. The United States Government established such a division three years ago, New York City in 1908, and Buffalo in 1913.

A census taken early in 1914 of the Infant Welfare Work already established in the State showed that it had been carried on in only twelve localities. It was therefore decided that one of the first activities of the department must be to inaugurate a campaign to reduce infant mortality throughout the State. It was felt that this could best be accomplished by means of popular exhibits, talks and demonstrations. The objects of the Campaign, as planned, were to educate the mother in the care and feeding of her child, to arouse the community to the

Digitized by Google

necessity for child welfare work, to point out the fact that a high infant mortality was unnecessary, to secure the establishment of infant welfare stations and to improve the general milk supply.

Forty-five cities were visited by the child welfare exhibits and 150 popular health lectures were given from April 1 to July 1. During the summer months these exhibits were sent to county fairs. Fifty-seven fairs were visited, at which it is estimated that 1,350,000 people were in attendance.

On the first of November the Exhibit was sent for periods of a week to the smaller villages of the State, and requests have been made which will keep this Exhibit busy continually.

Leaflets and pamphlets dealing with child welfare and care of the baby were prepared, and 75,000 copies were distributed personally by the nurse in charge of the Exhibit. These leaflets were also published in Polish and Italian. Special attention was paid to instructing the mothers in regard to their clothing and diet before the babies were born in order to reduce the infant mortality in the first month of life.

The results of the campaign can be ascertained by a study of the infant mortality statistics for the last six months of 1913 and 1914, as the educational campaign would not take any effect before July 1, and its teachings specially emphasized the care of the baby during the hot summer months. In 1913 the rate from July 1 to December 31 was 137, while in the last six months of 1914 this was reduced to 112 per thousand living births.

The mortality for the State outside of New York City was reduced from 126 to 111, corresponding to a saving of over 1,400 infants' lives.

In 32 of the 45 cities visited by the Exhibit, the infant mortality rate fell below that of 1913, while in the 12 cities not reached by the Exhibit, in only four did the rate fall below that of 1913.

Division of Tuberculosis

This Division is charged with the registration and sanitary supervision of all cases of tuberculosis occurring in the State of New York.

The Director of the Division exercises general supervision over all matters pertaining to his Division throughout the State. Control over the various districts is maintained through the Sanitary Supervisor of the districts by means of the local Health Officers and Public Health Nurses.

Educational campaigns for the establishment of county tuberculosis hospitals are in active operation, and these campaigns are ably seconded by the Tuberculosis Committee of the State Charities Aid

Digitized by Google

Association. Morbidity and mortality statistics are obtained in each locality by a study of the public records, by consultations with public officials, physicians, social organizations and by a house to house canvass of a typical district. Educational literature is distributed and lectures illustrated by moving pictures are given.

Efforts are made to assist patients to obtain admission to tuberculosis hospitals and cases that refuse to observe the necessary sanitary precautions at home, especially such as have families of small children exposed to the disease, are compelled to go to a tuberculosis institution.

The various tuberculosis institutions, both hospitals and dispensaries, are carefully inspected, and recommendations for their improvement are made.

Finally, a physical examination of the inmates of one of the penal institutions in the State is being made under the supervision of this Division.

Division of Publicity and Education

The function of the Division of Publicity and Education is a twofold one, to aid in disseminating the latest scientific knowledge in regard to public health problems among professional health workers and to organize a comprehensive campaign of public health education among the people of the whole State.

For the attainment of the first of these ends the Division of Publicity and Education arranges each year for a State Sanitary Conference of the local Health Officers. The last of these meetings was held at Saratoga Springs September 15–17, 1914, with 654 Health Officials in attendance. By means of the monthly bulletin of the Department and by means of special bulletins issued from time to time as occasion demands, the health officers and physicians are also kept in touch with current scientific administrative progress.

The monthly bulletin of the Department is its official organ of communication with the public and the attempt has first of all been made to popularize this bulletin and to convert it into an effective medium of education. Its name has been changed to HEALTH NEWS. All long and technical discussions (which when necessary are issued as Special Bulletins to a selected mailing list) have been banished from its columns. Each number contains half a dozen articles on timely health topics by men of national reputation in their respective fields. Special attention is paid to real news items in regard to current sanitary problems and sanitary progress in the State. Each number is illustrated with cartoons, diagrams and photographs. The 1914 volume included 436 pages. The edition has been enlarged to over 30,000

Digitized by Google

copies and is mailed during the school year to each of the 15,000 school principals in the State, as well as to physicians and health officers.

In addition to this semipopular educational literature it is, of course, the duty of the State Department of Health to issue special circulars of information in regard to particular health problems. During the last eight months of 1914 twenty-one such circulars were prepared on smallpox, measles, scarlet fever, and other specific diseases, on the conduct of an isolation period, on farm sanitation, and allied subjects, as well as five special bulletins. The circulars and special bulletins issued in 1914 total 195 pages and the aggregate edition of the whole twenty-six publications is 726,000 copies.

In order to come in touch with a wider public than can be reached by our own publications, the newspapers of the State have been asked to cooperate with the Department, and have generously responded. A 500 word Health Hint on such topics as Infant Feeding, Hot Weather Hygiene, Health on the Farm, County Hospitals and Taxes, Cancer, a Preventable Disease and the like, is sent out each week. These "Hints" are mailed in proof or in electrotype as desired, and 468 daily and weekly papers are using them pretty regularly each week and reaching some 1,500,000 readers.

The printed page must be supplemented by a more striking and vivid appeal to the eye and the popular exhibit should form a part of any well-organized public health campaign. The work of the New York State Department during the summer was centered particularly upon the prevention of infant mortality, and to aid the campaign three Child Welfare exhibits were prepared, as well as three others dealing with Rural Hygiene; and an exhibit has recently been prepared which illustrates how the serious problem of the increasing degenerative diseases of later life may be met.

The Division of Publicity and Education also arranges for public lectures upon health topics whenever requested, and the members of the staff as well as the Sanitary Supervisors are kept busy filling engagements of this kind. Three special lecturers on diseases of the eye and ear, on mouth hygiene and the care of the teeth, and on social hygiene are attached to the Department, and a series of syllabi of lectures has been prepared on all the more important public health topics, with a set of lantern slides corresponding to each lecture which may be sent out on request, for the use of health officers and other local lecturers. Original moving picture films dealing with Infant Welfare work and the work of the Visiting Nurse and Rural Hygiene have also been prepared.

Digitized by Google

Division of Communicable Diseases

As the name of this division would indicate, its function is to control communicable diseases as they exist in the State. There are between 1,100 and 1,300 Health Officers in the State who report daily the occurrence of any communicable disease in their communities. The list of diseases which are reported is the following:

Anthrax
Chickenpox
Cholera, Asiatic
Diphtheria (membranous croup)
Dysentery, amoebic and bacillary
Epidemic cerebrospinal meningitis
Epidemic or streptococcus (septic) sore throat
German measles
Glanders
Measles
Mumps
Ophthalmia neonatorum
Para-typhoid fever
Plague
Poliomyelitis, acute anterior (infantile paralysis)
Puerperal septicaemia
Rabies
Scarlet fever
Smallpox
Trachoma
Tuberculosis
Typhoid fever
Typhus fever
Whooping cough

The reports as they come in day by day are immediately tabulated according to place and district number for the use of the Department. Every week a list is sent to the Sanitary Supervisors.

Each report is carefully examined and if especially important, the matter is called to the attention of the Sanitary Supervisors. The Supervisors inspect the case at once and decide what measures shall be adopted to prevent its spread.

The records are also arranged so that the frequent occurrence of a disease in a community can be detected at once. When a disease becomes epidemic, the fact is communicated to the Sanitary Supervisor of the district and the matter is taken up with the local health

Digitized by Google

authorities in order to enlist their interest and cooperation in checking the disease.

There is also a large correspondence carried on with the health officers relative to health matters in their midst. It frequently happens that an obscure case of communicable disease appears. In these instances, the services of the Medical Expert of the Division are enlisted. This is of great service to the community as the diagnosis can be promptly determined and the matter of quarantine suitably adjusted.

As stated above the cases are tabulated for the use of the Supervisors; they are also tabulated monthly and yearly for statistical purposes.

The Division is also instrumental in the preparation and distribution of circulars on communicable diseases. These circulars have been prepared with the utmost care. They have been designed to convey general information regarding the disease with explicit directions to parents or nurse, patient, physician and health officer. The information is given to all on the same circular, so that no misunderstanding may arise between the patient and the health officer.

Education of the people in regard to modern conceptions of communicable diseases is an important work of the Division. Lectures are delivered by members of the staff whenever the opportunity presents itself.

The Sanitary Code formulated by the Public Health Council for the control of communicable diseases gives specific directions for procedure in regard to reporting, isolation, cleansing and disinfection, placarding. and exclusion from schools of persons affected with communicable disease. The Code is designed to bring about a minimum of hardship to the patients, yet to establish ample protection to the public; and it is in the enforcement of this Code that the activities of this division center.

Division of Public Health Nursing

The economic value of the work accomplished by Public Health nurses has been established beyond question. The Public Health nurses of the New York State Health Department are assigned "in such manner as will best aid in the control of contagious and infectious diseases and in the promotion of public health."

The nurse's function is no longer that of a bedside minister to the sick and needy at their homes, but rather that of a preacher of the gospel of health and sanitation, in an effort to stir the municipal conscience to a sense of its responsibility. Such constructive work has already resulted in the establishment of hospitals for the tuberculous in several counties. The details of the work include an intensive study

Digitized by Google

of the more populous portions of the counties and the presentation of the results of this study to the officials and to the people of these municipalities.

In a similar way the need for Infant Welfare Stations has been shown, and many such stations have been established as the result of the work of the nurses.

An important activity of this Division is the supervision and education of the women practicing midwifery throughout the State. When it is realized that 40 per cent. of the babies born in New York State are delivered by midwives, the tremendous importance of this branch of the nurse's work will be appreciated.

Division of Sanitary Supervisors

The State of New York is divided into twenty districts. In regard to health matters each district is in charge of a Sanitary Supervisor. Each Supervisor is a physician who has had large experience in public health work and devotes all of his time to this work in his district. The Sanitary Supervisor as prescribed by the Public Health Law is to:

1. Keep himself informed as to the work of each local health officer within his sanitary district.

2. Aid each local health officer within his sanitary district in the performance of his duties, and particularly on the appearance of any contagious disease.

3. Assist each local health officer within his sanitary district in making an annual sanitary survey of the territory within his jurisdiction, and in maintaining therein a continuous sanitary supervision.

4. Call together the local health officers within his district or any portion of it from time to time for conference.

5. Adjust questions of jurisdiction arising between local health officers within his district.

6. Study the causes of excessive mortality from any disease in any portion of his district.

7. Promote efficient registration of births and deaths.

8. Inspect from time to time all labor camps within his district and enforce the regulations of the public health council in relation thereto.

9. Inspect from time to time all Indian reservations and enforce all provisions of the sanitary code relating thereto.

10. Endeavor to enlist the cooperation of all the organizations of physicians within his district in the improvement of the public health therein.

Digitized by Google

11. Promote the information of the general public in all matters pertaining to the public health.

12. Act as the representative of the State Commissioner of Health, and under his direction, in securing the enforcement within his district of the provisions of the public health law and the sanitary code.

From the above it will be apparent that the duties are wide and cover a great many subjects. The Supervisor must be an expert on the diagnosis of communicable diseases. He may be detailed by the State Department for the suppression of epidemics; inspection of water sheds; inspection of sewage disposal plants; assistance of health officers in the abatement of nuisances; establishment of quarantines; inspection and report on all the health work done in each health unit of his district; training of health officers in securing a sanitary survey and instructing them in the scoring of dairies. He makes daily and special reports to the State Department of Health.

A central office is maintained at the Health Department from which the activities of the Supervisors are directed and records are kept. The Director of Sanitary Supervisors keeps in touch with the activities of all the Supervisors and furnishes them with all the information and supplies that the Department has to offer.

The Supervisor maintains a close personal touch with the work of each local Health Officer, aiding him in the performance of his duties especially upon the appearance of any contagious disease. He holds frequent conferences with the Health Officials of his district, thus promoting the interchange of ideas on public health matters; studies the morbidity and mortality of his district; takes up special work in different communities as most needed, such as typhoid fever, vaccination, child hygiene, tuberculosis, water supply and sewage disposal; and acts as a medical expert who may be called in consultation with the Health Officer to diagnose cases of communicable disease.

The Sanitary Supervisor thus makes it possible for the State Commissioner and the State Department of Health to know more intimately the local sanitary conditions of the various districts, as well as their problems and greatest needs. The Health Officers and Registrars take greater pride in keeping their work up to standard, knowing that it will be frequently inspected; and by being able to call to their aid a State Official at any time they are enabled more easily to enforce the regulations necessary for the efficient sanitary control and supervision of their districts.

Digitized by Google

Division of Cold Storage Inspection

The Cold Storage Law was enacted in 1911. The object of the law was to prevent commercial fraud by misrepresenting cold storage food as fresh; to prevent the retaining of foods in cold storage longer than ten months, obviating the possibility of a corner on foods, and to prevent the placing of food unfit for use in cold storage.

A supervising inspector of cold storage was appointed early in the year 1914, in order to keep more accurate control over the work of the Cold Storage Division. The method of reporting and the classifying of reports have been improved. The routes traveled by the up-State inspectors have been rearranged, and this has improved the up-State inspection service and added not only to the efficiency but has also diminished the traveling expenses.

This increase in efficiency is well demonstrated by the increase in the number of inspections and the increase in the number of prosecutions, more than double the number of prosecutions being instituted in the year 1914 than in the year 1913 with the same number of inspectors.

The supervising inspector and seven inspectors are stationed in New York city, as 66 per cent. of the amount of food in cold storage warehouses is in New York city, and the large cold storage warehouses in that city require constant inspection.

The amount of goods in cold storage warehouses is given in the following table, as of January 1, May 1 and September 1, 1914, in accordance with the provisions of the law:

	January 1	May 1	September 1
Eggs, cases, 30 doz. each	118,546	211,542½	744,494
Butter, lbs.	6,925,531	1,726,898	11,138,465
Poultry, lbs.	18,912,798	13,560,324	6,351,837
Meat, fresh, lbs.	5,418,873	6,784,188	8,210,976
Meat, salted, lbs.	1,094,614	2,160,871	1,958,850

During the year there were 5,150 inspections of cold storage warehouses made and 1,845 inspections of retail stores and markets.

As a result of the inspections a number of violations have been found, the majority of which were for misrepresentation, a comparatively small amount of food having been found unfit for use. Two hundred and twenty prosecutions were instituted in 1914 as against thirty-seven during the years 1911, 1912 and 1913.

Digitized by Google

The 1914 cases were disposed of as follows:

Prosecutions instituted	220
Closed	129
Discharged	63
Sentence suspended	42
Number fined	24
Total amount of fines	$1,730

Local health organization

The actual work of the public health campaign must largely devolve upon the men actually on the firing line — the local Health Officers.

The Health Officer is appointed (except in cities of the first and second class) by the local board of health which in cities is a special board of health and in towns and villages is the town board, or the board of trustees of the village as the case may be. The Health Officer must be a physician and special qualifications for the post may be established by the Public Health Council. His term of office is four years, and he may be removed for just cause and after a hearing by the State Commissioner of Health or by the local board with the approval of the State Commissioner.

The local board of health prescribes the duties and powers of the local Health Officer, subject to the provisions of the Public Health Law and the Sanitary Code, directs him in the performance of his duties and fixes his compensation. In communities with a population of 8,000 or less his compensation must be at least ten cents per annum per capita, and in larger communities not less than $800. The local board of health may make such regulations as it may deem necessary for the preservation of life and health, provided they are not inconsistent with the provisions of the State Sanitary Code.

General powers and duties of health officers. Health officers of towns and villages, in addition to such other duties as may be lawfully imposed upon them and subject to the provisions of the public health law and the sanitary code, shall perform the following duties:

1. Make an annual sanitary survey and maintain a continuous sanitary supervision over the territory within their jurisdiction.

2. Make a medical examination of every school child as soon as practicable after the opening of each school year, except in those schools in which the authorities thereof make other provision for the medical examination of the pupils.*

* This duty has been laid by a later law upon the Department of Education.

Digitized by Google

3. Make a sanitary inspection periodically of all school buildings and places of public assemblage, and report thereon to those responsible for the maintenance of such school buildings and places of public assemblage.

4. Promote the spread of information as to the causes, nature and prevention of prevalent diseases, and the preservation and improvement of health.

5. Take such steps as may be necessary to secure prompt and full reports by physicians of communicable diseases, and prompt and full registration of births and deaths.

6. Enforce within their jurisdiction the provisions of the public health law and the sanitary code.

7. Attend the annual conferences of sanitary officers called by the state department of health, and local conferences within his sanitary district, to which he may be summoned by the sanitary supervisor thereof.

The sanitary code, as at present in force, lays upon the local health officer a number of other specific duties.

He must report cases of communicable disease occurring on dairy farms by telephone or telegraph to the State Commissioner of Health. He must provide for the isolation or quarantine of all cases of communicable disease in accordance with the provisions of the Sanitary Code, distribute circulars of information in regard to communicable diseases, issue certificates for children returning to school after isolation and provide for such measures of cleansing, renovation or disinfection as may be necessary.

He must inspect and score all dairies selling milk or cream in his district, issue permits for the sale and supervise the storage, handling and sale of milk and cream.

He must inspect and issue permits for the construction and maintenance of labor camps.

He must investigate and take measures to secure the abatement of all nuisances which may affect health.

He must make a monthly report upon a prescribed form to the State Commissioner of Health.

The tuberculosis law requires of the local health officer a number of other special duties in regard to this disease including provision of facilities for sputum examinations, keeping records of reports of cases and sputum examinations, supplying physicians with sputum cups, holders, liquid disinfectants, waterproof bags, paper napkins, supervision of cases which the physician does not agree to care for, and control of consumptives whose habits make them a menace to their fellows.

Digitized by Google

A comprehensive health program for New York State

The work of the New York City Department of Health has reduced the death rate of the city by 40 per cent. during the last twenty years. There are to-day, each twenty-four hours, 200 death beds within the greater city. There would be 130 more deaths each twenty-four hours if the rate of 1894 had been continued.

The death rate for New York State should be forced down to a point well below that of the city of New York with its congested tenements and its diversified immigrant population. In 1913 the death rate for the city was 13.7 per 1,000 and that for the rest of the State 15.8 per 1,000 (based on the United States Census estimate of population). In 1914, the first year after the reorganization of the State Department of Health, and the beginning of a vigorous campaign against infant mortality and other preventable factors of mortality, the death rate outside of New York City fell to 15.3, while that for the city itself fell to 13.4. There is much still to be done, however, before the rate for the rest of the State can be pushed down below that of the city where it should be, in view of the natural advantages enjoyed by the rural districts.

The principal elements in the broad program of the New York State Department of Health for attaining this end may be stated briefly as follows:

1. To organize Infant Welfare Stations throughout the State for the instruction of mothers in infant feeding and infant care, so that the great waste of infant life which now results from maternal ignorance may be checked; and particularly to encourage breast feeding wherever possible.

2. To reduce still further our generally low rate from typhoid fever and diarrheal disease by securing the purification of water supplies, the pasteurization of milk, greater cleanliness in the preparation of foods, and proper disposal of household and community wastes.

3. For the reduction of these and other diseases, to secure the safety of milk and cream supplies throughout the State.

4. To better control such communicable diseases as diphtheria, scarlet fever, measles and whooping cough by the more general use of antitoxin in diphtheria, and by prompt isolation, education and the cultivation of habits of personal cleanliness which will do more than anything else to check the spread of disease from carriers and unrecognized cases.

5. To check the spread of tuberculosis and effect the cure of existing cases by securing institutional treatment for cases requiring such care,

Digitized by Google

and home treatment under the supervision of visiting nurses for the rest.

6. To increase the general standard of health and efficiency by a campaign of popular education as to the control by personal hygiene and medical care of the constitutional diseases of later life, such as cancer, diseases of the heart, blood vessels and kidneys, which in contrast to the communicable diseases are now alarmingly on the increase.

The New York State Department of Health has taken as its motto the legend:

Public Health Is Purchasable
25,000 Lives Can Be Saved In New York State
Within The Next Five Years

This is a clear and definite and attainable goal. It will be reached if the State and local authorities and the citizens of the State will do their part.

Digitized by Google

PART III

Suggestions for Legislative Action

Pursuant to the provisions of section 12 of the Public Health Law I have the honor to submit the following suggestions as to such legislative action as seems to me necessary for the better protection of life and health in this State.

Division of rural hygiene

It seems to me extremely desirable that a Division of Rural Hygiene with an adequate appropriation be established in this Department. The inauguration of such a Division would mark an important and much needed advance in public health work. Evidence is constantly forthcoming that modern sanitary measures, which have produced such remarkable results in the larger cities, have been totally lacking in the country districts in which, up to the present time, practically no sanitary work has been done. The result is that but little improvement has taken place in sanitary conditions over those existing in primitive times and the great natural advantages have been more than counterbalanced in the most densely populated districts in great cities by the more adequate application of sanitary procedures. For a number of years the death rate in the rural districts has been either stationary or showing a slight increase while that in New York City has been steadily decreasing. In 1913, for instance, the death rate in rural districts was 15.4, nearly 2 points higher than the death rate in Greater New York.

Last year I strongly supported a bill introduced at the instance of the State Grange which provided for the creation of such a division and for the appointment of a Director and District Sanitary Agents who would make sanitary surveys and instruct the farmers in simple preventive measures. The duties and powers of these agents were to be advisory and educational rather than those of sanitary police. They were to have no power to make surveys where the farmers did not want them. That the farmers themselves, however, would welcome such advice and assistance from experts is shown by the fact that this bill had the strong support of the State Grange and the State Charities Aid Association and a large number of persons throughout the State

Digitized by Google

who were interested in the welfare of the farmer. It passed both Houses but was vetoed by the Governor on the ground that the State could not afford the $25,000 needed to support such a Division.

I would earnestly recommend the enactment of legislation to this effect.

Vaccination

Sections 310 and 311 of the present Public Health Law require that no child shall be admitted to any public school unless it has been vaccinated.

As it is practically impossible to enforce the provisions of this law, and as marked opposition to its enforcement has developed in various portions of the State, I would recommend that it be amended so that the vaccination of school children be made compulsory only when the presence of smallpox in a community or neighboring communities renders this course necessary.

Cold Storage Law (Article XVIa of the Public Health Law)

At present the Cold Storage Law applies only to public cold storage warehouses. I would recommend that the operation of the law be extended to all persons using cold storage for the purpose of preserving articles of food intended for sale, whether such places are public warehouses or merely storerooms of private individuals or corporations.

I would also recommend an amendment making it clear that it is a violation of the provisions of the law to retain goods in cold storage for a longer period than that prescribed, even though during part of the time the goods have been kept in cold storage without the State.

Protection of public water supplies

I would recommend that provision be made to enable this Department to exercise a constant supervision over the watersheds and the public water supplies of the State, the expenses incurred in supervision and inspection to be paid for by the municipalities or water companies owning or controlling such supplies.

I would also recommend legislation to simplify the present cumbersome procedure for the enforcement of the water rules made by this Department, and to so increase this Department's authority that it may properly enforce these rules and require the installation of purification processes where such are necessary.

Digitized by Google

Pollution of streams

The prohibition against the pollution of streams now provided for in sections 76 to 84 of the Public Health Law should include mill and factory wastes as well as sewage. I am advised that a great part of the more serious nuisances now existing in the State are caused by the wastes from mills and factories which are at present excluded from these provisions.

Habit Forming Drugs (Article XIa, Public Health Law)

I am heartily in favor of the principle and object of the so-called Boylan Anti-Drug Law (chapter 363 of the Laws of 1914, Article XIa of the Public Health Law), which is intended to prevent the sale or use of habit forming drugs without proper medical warrant. It is, however, impossible to properly enforce this law without special appropriations for this purpose. Some of the provisions of the law are now rendered unnecessary by an Act of Congress, approved December 17, 1914, which requires the registering of all purchasers of these drugs and provides a means of tracing and recording purchases. I would therefore recommend that Article XIa of the Public Health Law be amended by striking out the detailed provisions as to the form of order blanks but leaving the general prohibition against the sale of these drugs, with the exceptions which are stated in the law, and also the provisions for the commitment of the habitual drug user. I would also recommend that sufficient appropriations be made to this or some other State department to enable State authorities to enforce the law.

Enforcement of Public Health Law and Sanitary Code

The Public Health Law, as amended in 1913, provides that any violation of the Sanitary Code, established by the Public Health Council, may be declared to be a misdemeanor. Section 1740 of the Penal Law makes a violation of the Public Health Law or of the regulations of the State Commissioner of Health punishable by imprisonment or fine, or both.

Last year when the Council was preparing the first chapters of the Code it was the opinion of the Council that it was unwise to make trivial violations, to which no moral turpitude or even gross negligence is attached, misdemeanors, but, in order to enforce the provisions of the Code, it was felt that a civil penalty should be provided. A bill was therefore introduced providing that a person violating the

Digitized by Google

Public Health Law, the Sanitary Code, or the lawful regulations of the Commissioner should be liable to the people of the State for a *civil* penalty of not more than $50 and authority was conferred on the Commissioner of Health to employ counsel to institute the necessary prosecutions. Owing, as I believe, to a misunderstanding of the purpose of this bill, it failed of passage in the Assembly. The Council was therefore compelled to provide that every violation of the Code should be a misdemeanor. It seems to us clear that only the more serious violations of the provisions of the Code should be misdemeanors and that the lesser civil penalty should be imposed in other cases.

The necessity of a provision in the law authorizing the Commissioner of Health to employ counsel to prosecute violations of the Public Health Law or Sanitary Code — either civil or criminal — is evidenced by the number of convictions obtained by the counsel employed by the Department to prosecute violations of the Cold Storage Law (Article XVIa of the Public Health Law). As no special authority is given to the Commissioner to employ a prosecuting attorney, the attorney of the Department may conduct the prosecutions only in those counties where this courtesy is extended to him by the district attorney. In New York county, for instance, where this permission is given, the Department has secured a very large proportion of convictions in cases brought for violations of the provisions of the Cold Storage Law. In other counties, notably Kings, where this courtesy was refused and the prosecutions were conducted by the District Attorney of the county, practically no convictions have been obtained. I am advised and believe that this remarkable difference is largely due to the insufficient preparation given by the representatives of the local district attorneys charged with the trial of these cases. It is evident that an attorney familiar with health legislation is apt to be more competent and efficient in handling such cases than others. Moreover, in the country districts it is very difficult to induce the local district attorney to take any interest in prosecutions of violations of the Public Health Law.

I would therefore recommend that this Department be specifically given the same authority that the Department of Agriculture and some other Departments have, to employ special counsel.

Prevention of bovine tuberculosis

That part of the Agricultural Law relating to the control of bovine tuberculosis has to a large extent admittedly failed in its purpose. The opposition to the provisions of this law was so marked that

Digitized by Google

Governor Glynn appointed a Commission to conduct a scientific investigation as to the causes of bovine tuberculosis, the extent to which this disease has affected the cattle of New York State, and the best means to prevent its further extension. This Commission is headed by Dr. Theobald Smith, as Chairman, the most distinguished authority in this country, and perhaps in the world, on animal pathology. Its membership includes some of the best known men in the State interested in various phases of the subject and represents the farmer, the consumer and the public health officials. I would therefore suggest that the recommendations which this Commission makes to the Legislature be given the most serious consideration.

The slaughter of diseased animals

The United States Government regularly inspects all animals slaughtered and which become the subject of interstate commerce. These furnish a very large proportion of all the meat consumed in this State, especially in the larger cities. There is, however, a large number of cattle in rural communities which are slaughtered and sold for food without inspection. Many slaughterhouses are operated in an insanitary manner, and many carcasses of diseased animals, whose meat is unfit for food, are sold without inspection for human consumption.

I would therefore recommend that suitable amendment of the Agricultural Law be made so that there be established a Veterinary Bureau in the Department of Agriculture which shall take cognizance of the prevalence of tuberculosis in cattle and which shall exercise a sanitary supervision over all slaughterhouses not subject to federal or municipal inspection and shall inspect all animals slaughtered therein, and have power to condemn all meat unfit for food.

Safeguarding of meats and foods

Article IV of the Public Health Law, enacted in 1881, charges the State Department of Health with the duty of "taking cognizance of the interests of the public health as affected by the sale or use of food and drugs and the adulterations thereof, and making all necessary inquiries and investigations relating thereto."

In 1893, by an amendment to the Agricultural Law, many of these duties were also imposed on the Department of Agriculture. Article IV of the Public Health Law, however, has never been repealed, but in accordance with an original understanding between the two Departments no appropriation has been asked for its enforcement by the

Digitized by Google

Department of Health, but an appropriation has been regularly asked for by the Department of Agriculture and annually appropriated by the Legislature.

It seems to me that the analysis of foods and drugs should be performed in the laboratory of the State Department of Health and pursuant to an agreement with the Department of Agriculture, which has no facilities for performing this work, I have asked for a small appropriation for initiating this work.

Most aspects of the general supervision of foods other than meats are commercial, the purpose of such supervision being to prevent fraud rather than to protect health. There are, in my opinion, other activities which will bring larger returns in the saving of life for the amount of money expended and consequently I have not asked for any appropriation for the enforcement of this article of the Public Health Law.

Inspection of kitchens and food utensils in public places

There is another article in the Public Health Law which is not enforced for lack of appropriations.

Chapter 552 of the Laws of 1913, being Article 17a of the Public Health Law, deals with cleanliness in the preparation and service of food. The State Commissioner of Health is given power to inspect and supervise any hotel, public restaurant, public dining room, dining car or steamboat and public, penal, or charitable institutions and all public places in which food is prepared, sold or served. His agents are authorized to enter the kitchens of these places to see that the dishes and other utensils used in the preparation of food have been properly cleansed, and the Commissioner is given power to enact rules and regulations for the proper enforcement of this article. No appropriation has ever been made to this Department to enable the Commissioner to carry out the duties thus imposed upon him.

Either a sufficient appropriation should be granted to enforce the provisions of this article or it should be repealed.

I have not asked for such an appropriation because of the necessary increases in the Department's budget for other purposes and because I believe that there are other lines of public health work in which the money can be more profitably expended.

Medical practice act

Under the present law, whereby illegal practitioners of medicine are prosecuted by the county medical societies, it is well nigh impossible to secure convictions. Medical societies are not unnaturally accused

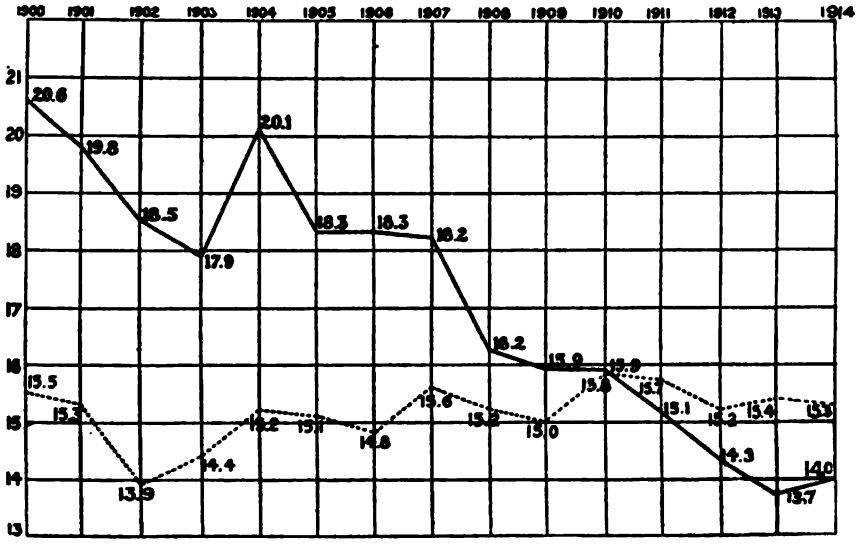
Digitized by Google

of prejudice, and juries, feeling as they frequently do that actions are brought through motives of jealousy or pecuniary interest, are rarely convicted of the illegality charged.

I would therefore recommend that the Public Health Law be so amended that the authority to initiate and maintain prosecutions for violation of the Medical Practice Act be vested exclusively in some State department, preferably a disinterested body, such as the State Board of Regents.

Digitized by Google

DEATH RATE IN NEW YORK CITY COMPARED WITH DEATH RATE IN RURAL NEW YORK



Heavy black line shows decline in death rate of New York City. Dotted line shows recent increase in death rate of rural New York (villages below 8,000 population classed as rural). Note that New York City loses fewer lives in proportion to population than does the rural portion of the State.

RURAL NEW YORK IS ENTITLED TO AS GOOD HEALTH PROTECTION AS THE CITIES

Digitized by Google

Digitized by Google

DIVISION OF COMMUNICABLE DISEASES

Digitized by Google

Digitized by Google

DIVISION OF COMMUNICABLE DISEASES

February 1, 1914

Hermann M. Biggs, M. D., *State Commissioner of Health, Albany, N. Y.:*

Dear Sir.— I have the honor of submitting the following report for the Division of Communicable Diseases for the year 1914.

Sickness and expense

During the year there were reported to the Department 160,099 cases of communicable disease. This is apparently a low figure for many cases are not reported. Examination of death certificates reveals the fact that about 50 per cent. of deaths by tuberculosis had not been reported as cases. There are records of 31,073 cases of all kinds of tuberculosis. But it appears that there must have been approximately 15,000 more cases that should have been reported.

Diphtheria is much better reported yet frequently information is received that a case, or several cases, have not been reported. It has been estimated that the number of deaths due to diphtheria is about 6 per cent. of the number of cases. If this estimate is correct, in New York State there must have been about 11,000 more cases of diphtheria than were reported.

When it is realized that there are 15,000 practicing physicians in the State, and when we consider the variability in the severity of the disease, it is possible to conceive that at least 11,000 cases might not be recognized and reported.

In regard to typhoid fever, it is estimated by sanitarians that one in eleven cases die. If this proportion is correct, during this year there were 2,500 unreported cases.

The so-called minor diseases are reported even more poorly. If the incidence of death among cases of measles is placed at .5 per cent., which is the accepted figure among sanitarians, it will appear that there were 120,000 cases of measles that were un-

Digitized by Google

reported. This is more than half of the total of all cases of communicable diseases reported. No data is at hand which will indicate the number of cases of German measles, chickenpox, epidemic streptococcus (septic) sore throat, puerperal septicemia and whooping cough that were not reported, but the inference is possible from observation of the conditions in many communities that many cases were unreported.

From the above it is quite evident that the figure indicating the number of cases reported is not half the total number of cases of communicable diseases existing in the State. This explains the difficulty in controlling these diseases. The agent of infection is disseminated because its presence is not recognized. The people do not yet realize the possibility of protecting themselves by a community spirit which will not permit a case of communicable disease to exist without being reported.

The amount of sickness, suffering, loss of wages and expense incurred is difficult to estimate. But an average estimate made by several physicians of the average cost of each case of communicable disease is instructive. The total immediate cost of all the communicable diseases would be about 6,400,000 dollars. This does not include the cost of unreported cases and does not include the capitalized value of deaths from these diseases of which there were 22,842.

Preventive measures

One of the major activities of the Department is to prevent this large amount of sickness and this large number of deaths. The most important measure to accomplish this end is to make an early diagnosis of the disease after which a prompt report is rendered. For the purpose of aiding in the diagnosis, the Sanitary Supervisors, who were appointed about the middle of the year have assisted the health officers in 269 outbreaks. In many instances the best service rendered, was accomplished by making an early diagnosis.

Vaccination

In these days smallpox plays a very unimportant part in our State. This is largely due to the effective specific prevention — vaccination. During 1913 among a population of 7,161,950

Digitized by Google

there were reported 126,354 vaccinations. (See Appendix I.) Estimating the population of the State at 10,000,000 it can be estimated that 170,000 people were vaccinated during that year. In 1914 there were reported 131,336 vaccinations in the State exclusive of New York City from among 3,667,053 people. On the basis of 10,000,000 population in the State there were approximately 350,000 vaccinations performed this year. (See Appendix II.)

A study of our records since 1908 by Dr. Wm. B. May shows that out of 4,031 cases reported, 2,886 or 71 per cent. had not been vaccinated. One hundred and two or 2.5 per cent. had been vaccinated at least five years previously, and 197 or 4.8 per cent. were vaccinated at least twenty years before. (See Appendix III.)

Smallpox

The following table shows the number of cases and deaths from smallpox reported in this State since the year 1898:

SMALLPOX — NEW YORK STATE

Year	Total deaths reported	Total cases reported
1898	1	No data
1899	21	No data
1900	14	No data
1901	445	753
1902	442	1,704
1903	41	544
1904	13	No data
1905	9	No data
1906	7	No data
1907	10	No data
1908	3	784
1909	4	386
1910	7	353
1911	3	341
1912	4	894
1913	1	823
1914	3	791

Digitized by Google

Since 1908 these cases have been charted by months. (See Appendix III.) From this chart it appears that during the latter part of 1913 and the early months of 1914 an unusually large number of cases of smallpox was reported. Most of these cases occurred in the city of Niagara Falls. An account of the origin of this outbreak with the measures adopted to control it will be found in Appendix IV. A consideration of the above table might lead once to minimize the danger of smallpox, so that it will be well to consider the fatality of this disease in outbreaks elsewhere in the United States during the last fifteen years. (See Appendix V.) A fatality of 13 to 25 per cent. of the cases will be noted.

Diphtheria antitoxin

Another preventive measure that has played an important part in controlling a communicable disease during the last twenty years is diphtheria antitoxin. It has not been used to the best advantage because of the fact that in many instances the antitoxin was given late. There were reported during the year 22,537 cases of diphtheria of which 8.9 per cent. died. A study of a part of these deaths shows that during the last three months of the year 95 per cent. of the deaths were among children under 6 years of age. The day of the disease on which the antitoxin was given was in many instances delayed. Attention of the physicians is, therefore, called to the importance of paying particular attention to young children. The following procedures are recommended:

First — When there is a baby or young child in the home of an adult ill with diphtheria, cultures should be taken from the throat and nose of the child. If cultures are reported negative it should be sent to live with adult friends or relatives during the illness of the patient.

Second — If the child remains at home, when there is a case of diphtheria in an adult residing in the house, an immunizing dose of 1,200 units of diphtheria antitoxin should be given to all young children of 50 pounds weight, 500 units to all babies of 20 pounds or less.

Third — To every child of 50 pounds who has the least suspicion of diphtheria, a dose of 2,500 units should be given subcutaneously at once, before waiting to learn from the

Digitized by Google

laboratory the report of the cultures. Twenty pound babies should receive about 1,000 units. It is best to err on the safe side — give the antitoxin early.

Fourth — It is often difficult to obtain a satisfactory culture from young children. If a report from the laboratory states that the culture is negative for diphtheria and clinical symptoms persist take another culture.

Fifth — If the child is very sick give the antitoxin intravenously. Five thousand units given intravenously is worth 20,000 units given subcutaneously. If it is impossible to give the antitoxin intravenously, the antitoxin may be given intramuscularly, usually in the buttocks.

Sixth — The health officer keeps a sufficient supply of fresh diphtheria antitoxin on hand, ready for instant use. The State Department of Health will supply him with all that he needs.

Schick test

In institutions where diphtheria occurs if suitable laboratory facilities are available, it will be economical to determine whether or not the children exposed have natural antitoxin. This can be determined by means of the Schick test. (See Appendix VIa.) Those who have natural antitoxin need not be given antitoxin.

Diphtheria carriers

It has become more and more evident that diphtheria carriers are an important factor in the spread of this disease. It is known that about 50 per cent of the clinical cases of diphtheria will not harbor the diphtheria organism after the membrane leaves the throat. Nine per cent. of the cases harbor the diphtheria organisms for 31 days, 2.5 per cent. for 61 days, and 1 per cent. for 90 days. It is estimated that .18 per cent of the general population harbor virulent forms of the diphtheria organisms but during epidemics the percentage increases greatly. For example, it has been found that 37 per cent. of persons attending the sick become carriers. Twenty-nine per cent. of relatives in homes where precautions are not observed become carriers, and 14 per cent of attendants on diphtheria wards of hospitals become carriers.

Digitized by Google

The location of these organisms in the throat of a carrier is important. A study of serial sections of tonsils shows that the organisms are not located in the crypts but are located in colonies scattered over the surface of the tonsil. These colonies are microscopic in size so that it is impossible to detect them with the naked eye. They are sometimes found on the surface of normal appearing tonsils but more often the tonsils are enlarged. Sometimes there are but few of these colonies on the surface of the tonsil and at other times they are very numerous. These colonies extend deep into the squamous epithelium, some of the individual organisms extending to the subepithelial tissue. (See Appendix VI-b.) This explains why some cultures taken from the surface of a tonsil will be negative whereas others will be positive. In the first instance none of these colonies were touched by a swab whereas in the latter instance a swab picked up some of the surface of a colony. The organisms are sometimes located on the mucous membrane of the nose and may be in the adenoid tissue. There is, however, usually some primary pathological condition. Sometimes foreign bodies are found. Sometimes the primary condition is syphilis or tuberculosis. These, however, are not very common.

Treatment of diphtheria carriers

The treatment of diphtheria carriers is one that has received a great deal of attention. Caustics apparently are unable to reach the organisms located at the bottom of the colony. Sprays into the nose and throat with various bacteria such as staphylococcus aureus, bacillus bulgaricus, bacteria found in sour milk have been used. These organisms simply overgrow the diphtheria organisms in the tonsil so that it is more difficult for the bacteriologist to find them. Tonsillectomy has been successfully performed in a large number of cases with gratifying results. Doctors Overton and Turrell removed the tonsils from eighteen carriers with a result that sixteen of them became free of the diphtheria organisms immediately after the operation. The tonsil has been removed from several other carriers in the State during the year with an equally gratifying result. It is often thought best to immunize the carrier with diphtheria antitoxin before removing the tonsil but Zingher has shown that for the most part carriers contain natural antitoxin in their blood. This has been demonstrated by

Digitized by Google

the Shick test in most cases of carriers. Apparently there is little or no danger of diphtheria developing following the removal of tonsils of diphtheria carriers. It has not developed in any of the above-mentioned cases after the tonsils were removed.

Another method of treating diphtheria carriers which has been useful in a few instances is to attempt to stimulate the production of a normal mucous membrane by keeping the parts clean. This is accomplished by spraying the nose and throat at intervals of about two hours during the day time with a simple normal saline solution. A few carriers have apparently been cured by this method.

The question has risen as to how much danger carriers are to a community. In order to secure data upon this question, the Department has made use of Regulation No. 40, Chapter II of the Sanitary Code, and has thereby given permission for carriers to be released from quarantine when the nose and throat have been normal in appearance for five weeks. Between the middle of August 1914 and the first of January, 1915, twenty-four diphtheria carriers were released as indicated above on condition that:

First — They were careful about coughing and sneezing in the presence of little children;

Second — That cultures taken at intervals of ten days to two weeks; and

Third — That the health officer could advise us if secondary cases ever occurred.

Up to the present time no secondary cases have been reported.*

Diphtheria in schools

When an outbreak of diphtheria occurs in a school or institution, it is found that if cultures are taken from the throats of all attending the institution a certain per cent. will be found to be carriers who apparently have no relation to the outbreak and if treated as carriers suffer an unnecessary hardship. It is therefore recommended that when such an outbreak occurs an inspection of the throat and nose be made of all those connected with the institution. Where evidence of inflammation occurs, a culture should

* Since the above went to press a virulence test is now required before allowing cases to be released, and then only when the virulence test is negative.

Digitized by Google

be taken. The carriers found by this procedure if in a school should be excluded and isolated at home until the carrier state is cured. If the outbreak is in an institution the carrier should be isolated. If there are a large number of carriers it may be feasible to permit these carriers to attend school in a room by themselves and kept apart from the other children attending the school. As soon as a pupil is cured of his carrier state he should be permitted to return and continue work with his class.

In small communities when an outbreak of diphtheria occurs in a school, when carriers are discovered they should be excluded and isolated at home.

Typhoid carriers

Typhoid carriers, while not so numerous as diphtheria carriers, are yet one of the principal sources of typhoid fever. It has been found that 20 per cent. of typhoid fever patients are still discharging typhoid organisms in their excreta six weeks after the date of onset. It is, therefore, a preventive measure of considerable importance that typhoid cases be not discharged from observation until they have been taught how to effectively disinfect their discharges. A small per cent. of the carriers will be found to persist for many years. In some instances the course of the disease is very light and the carrier has quite forgotten that she ever had typhoid fever. It is, therefore, a common practice in epidemiological work on typhoid fever to inquire as to the number of relatives or friends who have had typhoid fever no matter how long before. By this line of inquiry it is sometimes found that the presence of a certain individual has been accompanied by typhoid fever for many years. On the other hand, carriers are found accidentally to whom no cases of typhoid fever can be attributed. The latter class of people are found to be unusually cleanly in their habits and the sanitary surroundings have been of the best. This fact is not true of those carriers to whom many cases of typhoid fever have been traced.

Considerable experimental work is being performed on these typhoid carriers in an attempt to cure them. In the meantime, it is the policy of the Department to require that they be not permitted to be employed on dairy farms, or in a household in a way

Digitized by Google

that will bring them in touch with the preparation of food. They are cautioned to exercise the strictest care in regard to the cleanliness of their persons.

Standard procedure in controlling epidemics

In order to cope with outbreaks of communicable disease with the greatest precision a comprehensive method of procedure has been planned which should be modified more or less to meet local conditions. The following procedure is recommended to health authorities where outbreaks of diphtheria occur. This outline of procedure can be adapted to use where outbreaks of scarlet fever, septic sore throat, and other outbreaks occur:

1 The Health Officer and Board of Health are expected to perform the following duties at once:

(a) Arrange for necessary amount of money to cover the expense of controlling the outbreak;

(b) Arrange for a temporary laboratory, if a permanent one is not available;

(c) Prepare a map of the infected municipality;

(d) Appoint an isolation and ambulance squad;

(e) Arrange for guards for extreme cases, six for each house. (Eight hour shifts.)

(f) Arrange for squads to clean and disinfect homes;

(g) Call together all physicians of the community.

2 Determine from the number of physicians present, and the number of nurses available, into how many districts the infected area may be advantageously divided.

3 Place a physician in charge of each district. He shall be known as district chief. Assign one or more nurses to each district to work under the direction of the district chief. The duties of the district chief shall be as follows:

(a) Visit each home in his district. Examine the throats of all occupants, take cultures from inflamed throats. Refer clinical cases to family physicians; if there is none, assign a physician to care for the case.

(b) Visit each home every other day until the epidemic is controlled, and then only as often as is deemed advisable.

Digitized by Google

(c) Report all positive cases together with suspected cases to the Health Officer. Report any condition which is unsatisfactory to the Health Department. Report to the Health Department when an isolation should be terminated.

(d) The nurses shall accompany the district chief on his rounds, and assist in taking cultures, directing in the proper disposal of discharges from the nose and mouth, and advise regarding general sanitary improvements.

4 When the isolation is raised by the Health Department the room in which the patient has been confined shall be thoroughly aired out, cleaned with soap and hot water, if necessary renovated. (Fumigation is unnecessary.)

5 The Health Department shall isolate all clinical cases, if necessary guards shall be stationed at the house, or shall remove the patient to a local hospital.

6 A temporary hospital may be established in schoolhouses, churches or tents. (For the latter see special provision by the State Department of Health.)

7 The Health Department shall

(a) Have a sufficient supply of diphtheria antitoxin available.

(b) Locate on a map the cases of diphtheria.

(c) Locate on a map the milk routes.

(d) Indicate schools which patients attend.

(e) Chart the daily incidence of the disease.

8 The Health Department shall raise quarantine, disinfect or clean the premises after the termination of the disease as the division chief shall direct.

9 The remaining diphtheria carriers shall be released from quarantine after their throat and nose shall have a normal appearance for a period of five weeks on condition that a virulence test of the organisms is found to be negative.

A special form has been prepared for checking outbreaks of smallpox which reads as follows:

Digitized by Google

andard procedure in controlling smallpox

with smallpox the local board of health is directed to ing action:

case diagnosed as smallpox shall be immediately d kept isolated until the patient has fully recovered anger of the transmission of the disease has passed. lation hospital is available within your jurisdiction h case must be immediately removed there. Health have full power to cause such removal by force.

ery suspected case of smallpox should be isolated definite diagnosis has been made, and all exposed persons should be at once vaccinated.

3 Every person known to have been exposed to smallpox (contacts) should be immediately vaccinated. If the vaccination is within forty-eight hours of the time of the *first* exposure the person may be required to report for observation daily to the Health Officer, or to some one designated by him. until the vaccination takes or until a period of sixteen days from the *last* exposure has elapsed. If the first vaccination is not successful, all such persons should be revaccinated. These persons need not be quarantined if they are seen daily, and immediately isolated on the appearance of any symptoms.

4 All persons exposed to smallpox who have *not* been recently successfully vaccinated and whose first exposure antedates forty-eight hours, and who are immediately vaccinated, should be isolated and quarantined until the vaccination has definitely taken, (for at least one week,) or if the vaccination fails until the full period of incubation of smallpox (16 days from the last exposure), has elapsed.

5. All persons exposed to smallpox, who have been vaccinated recently with a successful result may be immediately discharged from observation.

6. All persons known to have been exposed to smallpox and who refuse vaccination, should be strictly quarantined for sixteen days, from the date of the last exposure.

7. A record should be kept of the names and addresses of all exposed persons, the action taken with reference to each, the date of vaccination, the dates of observation, with notes

Digitized by Google

of the results of vaccination (whether successful or not), and when revaccination is done, the date of this.

8. When a person suffering from smallpox is quarantined in a house or apartment a record should be made of the name and age of every person living in the house and there quarantined, and their presence in the house should be verified daily.

9. If any person under quarantine escapes from observation, every effort should be made to determine where such person has gone and immediate notification made to the Department of Health at Albany.

10. During the prevalence of smallpox in the State the diagnosis of every case of chickenpox reported should be confirmed by a representative of the local Health Department, and such cases should be immediately reported to the Department of Health at Albany. In any case where the diagnosis is doubtful the patient should be immediately isolated, all exposed persons should be vaccinated, and the State Department of Health notified.

11. Physicians are required by law to report to the Department of Health the number of vaccinations performed by them.

12. If the Commissioner has publicly declared that smallpox exists in a community the law excluding unvaccinated persons, whether school children or teachers, from the schools should be enforced. People are requested to notify the State Department of Health and to direct the attention of the school authorities of the district if this law is not enforced.

A campaign of education concerning the benefits of successful vaccination should be inaugurated and carried on with vigor. This can be accomplished only by a strict compliance with these directions and by the practice of general vaccination, especially of all persons living in those sections where smallpox is prevailing.

Portable hospital

Many communities are not suitably equipped with hospital facilities to obtain control of a large outbreak in the briefest amount of time. It has therefore appeared to the Department

Digitized by Google

that a portable hospital similar to the field hospitals of the army would be extremely valuable to use in such emergencies. Captain C. W. Berry, M. D., Sanitary Supervisor in this Department has prepared a statement as to what would be required to meet this need. His statement is as follows:

1 It would be of great advantage to the State if the Department were ready at short notice to provide a means of taking care of an epidemic of communicable disease, especially in those locations where no hospital or other available spot exists.

2 To have this in such shape as to be of use in an emergency, the State would have to own the equipment, and have it stored in some central location, ready for use at any or all times. The Field Equipment of the Medical Department of the National Guard could not be utilized for such a purpose, because it is kept ready for mobilization orders, and also when used for communicable disease, it is usually sterilized by burning the whole business, tents, cots, bedding and utensils, which saves time and future trouble.

The State could not at short notice provide itself with these things, and the delay which would ensue between order and delivery would be considerable, and would probably be fatal to the undertaking.

3 The equipment might be purchased from the War Department, but previous experience teaches that we would probably have to go directly to the contractors who make the goods. The Adjutant-General's office at Albany, have some white tents that might be purchased below cost, but they are more or less obsolete, and in the disease like Morbilla could not be used on account of the effect of bright sunlight on them. The regular service is using khaki exclusively. The saving in cost would not pay for the difference between the right and wrong article.

4 The only books on the subject are the manual for Medical Officers U. S. A., but the details for construction, equipment, etc., are treated of in Field Service Regulations, Infantry Drill Regulations, etc.

Digitized by Google

5 The Department should purchase a portion of a regular field hospital without the medical equipment, which makes a unit that can be contracted or expanded at pleasure. An outfit to take care of from 100–125 patients without crowding would consist of about the following:

12 hospital tents and flies complete
20 oil stoves
2 Harris or McCall cremators
1 100 man range
12 Colts acetylene lights.
1 chest extra carbide
1 108 mess field outfit
10 tent units (contain bedding, blankets, rubber sheets, pajamas, pillows and sheets)
10 tent furniture units (contain cots, mosquito bars, spreaders, tables, etc.)
10 tent units extra bedding
2 boxes bed pans
5 chest commodes

These materials are roughly what is needed, they are so packed that all or part can be used. They could be packed in one-half of a baggage car, be attached to any train and sent anywhere at a short notice; would probably weigh less than three tons.

Expense of packing and shipment, disinfection and return, should be borne by the municipality that used them. The entire outfit could be handled by an ex-army sergeant, employed as a clerk in the Department when not away with the outfit.

6 The original cost to the Department for such an outfit would be between three and four thousand dollars, and the slight cost to replace damage and keep the original intact would be charged to those using it. Such an outfit displayed at county fairs would be useful.

7 To get exact prices and places where equipment could be purchased, would involve a trip to Washington, and some time spent with the Department of Supply there.

8 This equipment at full capacity would require the service of a resident physician, 6 nurses, a cook and a helper.

Digitized by Google

Education of the public on the prevention of communicable diseases

In order to accomplish results rapidly in controlling an outbreak of communicable disease the education of the public and the friends of a patient is a very important work. With the assistance of the Division of Publicity and Education circulars on communicable diseases have been revised and distributed. The circulars are uniform in their plan in that they first of all give a brief description of the disease, the infectious agent and the mode of infection. There are given directions to parents or caretaker, directions to the physician, and directions to the health officer. The reason for this is that these three parties are the persons interested in the case. If directions are given to all three in the same circular a better understanding and less friction will result. The circulars published to date are the following:

> Smallpox, Vaccination, The Teacher and Communicable Disease, The Conduct of an Isolation Period in the Home, Scarlet Fever, Typhoid Fever, Measles, Whooping Cough, Tuberculosis, Diphtheria, and Amusements for Convalescent Children.

These circulars have been supplied to health officers who are required to place them in the homes in cases of communicable disease.

Health officers

There were 1,147 health officers in the State on December 31, 1914. Those health officers of communities of over 20,000 population report daily the number of cases of communicable disease that are reported to them. The health officers of communities of smaller size send the original report which has been made out by the physician, to us within 24 hours from the time the diagnosis is made. The following cut gives an idea of the distribution throughout the State of these health officers. It will be noted that where the State is sparsely populated there are few health officers whereas in the more populated districts they are more numerous.

Transfer report of cases

It is a frequent complaint that cases of communicable disease are imported into a district. This case is charged to a community reporting the disease. Of course the local health officials were

Digitized by Google

not accountable for this case and its presence reflects upon their efficiency. To meet this objection a system of transferring case reports to the place in which the disease was contracted was started in Onondaga county during December of this year. The system has promise of considerable value in improving the accuracy of our reports and also for pointing out more sharply the real source of infection. It will also aid aggressive health officers in keeping their record down to a minimum.

Communicable disease on dairy farms

The Sanitary Code requires that whenever cases of communicable disease occur upon dairy farms or any place where raw dairy products are handled the fact must be telephoned or telegraphed to the Department at once stating the name, address, whether or not isolation is complete, and if permission to sell the products has been granted the telegram should state where they are distributed. Since the first of August the Department has received reports of the following number of cases on dairy farms:

Scarlet fever	11
Diphtheria	23
Typhoid fever	16
Septic sore throat	2
Chickenpox	1
Measles	2

Cleansing and disinfection

Another preventive measure of particular importance is that of cleansing and disinfection. The importance of fresh air and sunlight is being rapidly realized. When a case of communicable disease exists in a room, at the termination of the illness the room should be thoroughly washed with soap and water and thoroughly dried out by means of fresh air and sunlight. If the walls have been soiled it may be necessary to calcimine or repaper them. The importance of fumigating with formaldehyde has been much exaggerated in the past. While there may be no doubt that it will destroy the infectious agent it should not be permitted to be a substitute for thorough cleaning. Fumigation with formaldehyde

Digitized by Google

Digitized by Google

Digitized by Google

is not considered of especial value in destroying the germs of tuberculosis. The envelope which surrounds this organism is apparently quite an effective barrier against the penetration of this gas. The rooms that have been occupied by a tuberculosis patient can best be rendered safe by cleaning with soap and water and by the application of a disinfectant. These procedures have been widely used during the year and no circumstance has arisen which would lead one to modify the method.

Statistical Data on Communicable Diseases

Comparison of numbers of cases reported during 1913 *and* 1914

Appendix VII presents a table which shows the number of cases and deaths in the State during 1913 and 1914. The per cent of deaths is also indicated. The total figures for 1914 are hardly comparable with those of 1913 for the reason that several diseases which had heretofore not been reportable were made so by the Sanitary Code which became effective on May 1, 1914. It will be noted that there were reported over 2,000 more cases of diphtheria; 17,539 less cases of measles; 1,333 more cases of scarlet fever and 32 less cases of smallpox in 1914 than in 1913. The number of tuberculosis cases is practically the same being only 47 less in 1914 than in 1913. There were 767 less cases of typhoid fever than in 1913 but there were 2,583 more cases of whooping cough reported.

We are not inclined to attach much importance to the per cent of deaths on account of the incomplete reporting of cases, but from the data at hand, it would appear that the per cent of deaths for diphtheria, epidemic cerebrospinal meningitis, scarlet fever, typhoid fever and whooping cough decreased slightly whereas the per cent of deaths from measles, poliomyelitis, and tuberculosis increased a little.

Monthly incidence of communicable disease

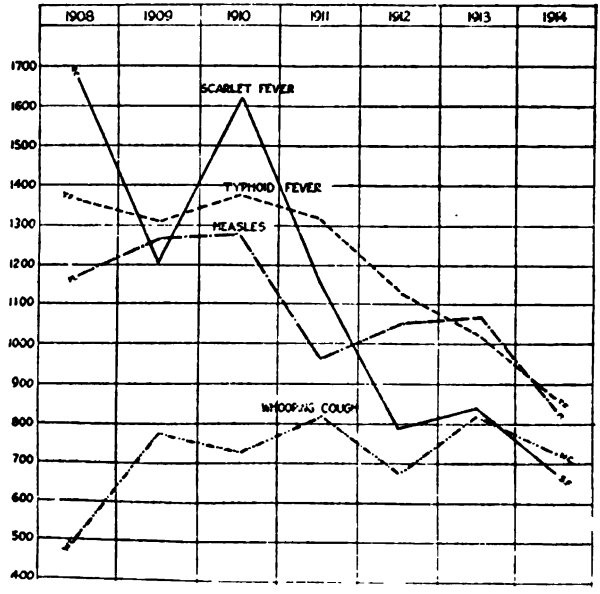
The more important of the cases and deaths from communicable diseases have been charted and are shown in Appendixes VIII–XIV inclusive. These charts indicate the number of cases and number of deaths in the State each month since the beginning of

Digitized by Google

1908. One of the striking features to be noted from these charts is the remarkable constancy at which the maximum and minimum number of cases and deaths occurred each year. For example, in measles the maximum number of cases is usually in May and the maximum number of deaths is in the same month. The maximum number of cases of scarlet fever is in March whereas the maximum number of deaths is a month later. The maximum number of cases of typhoid fever is in September while the maximum number of deaths is in September or October. The minimum number of cases of scarlet fever is in August and the minimum number of cases of measles is in September.

Inspection of these charts will indicate that scarlet fever, measles, typhoid fever, smallpox and poliomyelitis are being better controlled whereas diphtheria, tuberculosis and whooping cough are practically at a standstill so far as any striking improvement in the control of these diseases is concerned. This fact is clearly brought out by the following chart.

Deaths from four communicable diseases in New York State for the past seven years



Digitized by Google

Comparison of existence of communicable disease in New York city with that in remainder of state

It is interesting to compare the incidence of communicable diseases in New York City with that of the remainder of the State. (Appendix XV.) There is approximately the same population in New York City as in the remainder of the State. It will be noted for measles that since 1908 the number of cases reported in New York City has considerably decreased. In the State the number has remained more nearly stationary, except for 1910 and 1913 when the number was considerably increased. The per cent of deaths in the remainder of the State has decreased about 8 per cent while in New York City the number of deaths has decreased about 27 per cent.

For diphtheria there has been an increase reported in both New York City and the remainder of the State. The decrease in number of deaths since 1908 has been about 19 per cent. in New York City, whereas in the remainder of the State it has been 15 per cent.

While the number of cases of whooping cough has increased in both New York City and the remainder of the State, the cases reported are nearly twice as great in the State as in New York City. The deaths from whooping cough in the State have greatly increased whereas in New York City the number of deaths are fewer.

The number of cases of scarlet fever reported is considerably less in New York City since 1908, but in the remainder of the State the number, while greater for 1910 and 1911, is now about the same as in 1908. The number of cases reported is about 43 per cent. less in the State than in New York City. The number of deaths in New York City since 1908 has decreased nearly three fold whereas in the remainder of the State this decrease is not so extensive.

For typhoid fever the number of cases in New York City has quite uniformly decreased since 1908 whereas in the remainder of the State the number reported is quite regular and shows substantial decrease. There were about a quarter more cases in the State than in New York City. The number of deaths in the State and in New York City has decreased about 25 per cent. in the former, and 37 per cent. in the latter.

Digitized by Google

For pulmonary tuberculosis, the number of cases reported since 1908 has decreased slightly in New York City but in the remainder of the State the number has increased nearly three fold. However, the number of cases reported in New York City was about seven times greater in 1908 than in the remainder of the State, while in 1914 there were reported a little over twice as many as from the remainder of the State. The number of deaths from tuberculosis in New York City increased from that of 1908 by 269 whereas in the remainder of the State the number of deaths decreased 136 in 1914.

It is the custom to tabulate month by month the cases reported in New York City beside the cases reported from the remainder of the State. This table is presented in Appendix XVI. On examination of the totals, it will be observed that nearly all of the cases of communicable disease are apparently more numerous in New York City than in the remainder of the State. Smallpox is a notable exception, there being only 24 cases in New York City, against 674 cases in the remainder of the State. This is attributed to the protection which the people of New York City possess because of the fact that so many of them have been vaccinated.

The above comparison emphasizes the effectiveness of the activities carried out in New York City. It is hoped that with the new regulations in force, and the new activities which have been put forth by the Department in the State there will result a better comparison next year.

Communicable diseases by counties

It is of interest to review the number of cases reported in the various counties of the State in order to determine in what counties the disease has been most prevalent. For this purpose the following data have been prepared for each county for several of the communicable diseases. The number of cases reported, the number of deaths reported, and the case rate per 100,000 people are presented in Appendix XXVII. In order to make the

Digitized by Google

figures in this table more easily understood, they have been charted upon a map of the State. The difference in density of color on the map indicates the difference in case rate. Those charts having the largest number of cases per capita are indicated in the darkest colors. (See Appendixes XVII–XXII inclusive.)

Existence of poor reporting shown by case fatality rate

As has been mentioned above, too much reliance cannot be placed upon the reported cases. In order to gain some idea of the prevalence of diseases by the number of deaths which are reported in the various counties, the fatality rate of each county has been tabulated, that is, the number of deaths divided by the number of cases will give a figure which indicates the relative severity of the disease. The reason for this relative severity in many instances will be due to the poor reporting of the cases. In a community where there are many deaths but few cases are reported, the fatality rate will be very high, whereas in other communities where cases are completely reported, a lower and more uniform rate will be noted. There are other reasons which explain the fatality of the disease. For example, in diphtheria, if it is the custom to give antitoxin late, the fatality rate will be actually higher than in communities where antitoxin is given early. Again, during certain seasons the virulence of the infection seems to be greater than it does at other seasons. This, however, is usually confined to smaller localities, and when tabulated from a large area, like a county, the fatality rate would tend to be equalized. Again, where small numbers are used the rates will be unreliable. However, as stated above, the chief reason for a high fatality rate is usually the large number of unreported cases, so that for the purpose of this report, the fatality rate is used to indicate those communities where cases are presumably poorly reported. In order to present these rates clearly so that they may be easily compared with the case incident rate, the fatality rate has also been charted upon maps. (See Appendixes XXIII–XXVII.)

A comparison of the maps which indicate the case rate per county with those maps which indicate the case fatality rate of the same diseases brings out certain interesting facts. For example:

Digitized by Google

Measles

From the map which indicates the prevalence of measles in the State, one notices that very few cases of measles apparently have existed in St. Lawrence and Saratoga counties, whereas in Broome county, a great many cases have occurred. One is, therefore, somewhat surprised to find that the case fatality rate for measles is high in St. Lawrence and Saratoga counties, and comparatively low in Broome county. If there were a considerable number of deaths in St. Lawrence and Saratoga counties, it is selfevident that there must have been a large number of cases. The inference is clear that many cases in these two counties were not reported.

Typhoid fever

Turning to the maps which indicate the presence of typhoid fever, we note that in Chautauqua, Niagara and Seneca counties, a considerable case rate existed, but in Livingston county a very few cases were reported. One would infer from the records that this county was remarkably free of typhoid fever. When, however, we turn to the case fatality rate map, we find that there were more deaths in this county than there were cases reported. Since we know that there is usually one death for every eleven cases of typhoid fever, it is apparent that there were about ten times more cases in this county than were reported. On the other hand, in Chautauqua, Niagara and Seneca counties, we are pleased to note that the fatality rate was remarkably low.

Scarlet fever

The map showing the presence of scarlet fever would indicate that the highest case rate for this disease existed in Herkimer, Saratoga and Cayuga counties, apparently St. Lawrence and Fulton had very few cases per capita, and Columbia and Ontario counties had a few more cases per capita. The case fatality map indicates that the death rate in Herkimer, Saratoga and Cayuga counties was comparatively low, whereas in St. Lawrence, Fulton, Columbia and Ontario counties it was high. Again our inference is that in these counties the cases were not well reported.

Digitized by Google

Whooping cough

The map showing the presence of whooping cough would indicate that this disease was particularly prevalent in Erie, Cortland, Chautauqua and Delaware counties and that there were very few cases in Oswego and Franklin counties. From a study of the case fatality map, it appears that in Franklin and Oswego counties there was a very large number of unreported cases, in fact we find that there were about as many deaths as there were cases reported. The case fatality rate in Erie, Cortland, Chautauqua and Delaware counties was not very high. Here again it is apparent that this disease was not well reported in Oswego and Franklin counties.

Diphtheria

The map showing the presence of diphtheria would indicate that this disease was particularly abundant in Chemung, Herkimer, Rensselaer, Erie and Niagara counties. There were a few cases reported in Chautauqua, Ontario, Oneida and Saratoga counties. Reference to the case fatality map shows that in these four counties the fatality rate was the highest in the State and the death rate in the counties where we might expect the most was comparatively low. Our supposition is that in Chautauqua, Oneida, Ontario and Saratoga counties the cases were not well reported.

The facts gleaned from these charts would seem to justify special activity on the part of the Department in those counties where poor reporting has been noted, and this can be done by calling the attention of the physicians and health officers of these counties to the exact situation and asking their cooperation in obtaining a full registration so that the protection which is granted to others may be given to their constituents.

Typhoid fever in cities

In order to determine the prevalence of typhoid fever among the cities of the State, incidence of this disease is recorded in Appendix XXVIII. From this table the number of cases reported from each city from 1908 to 1914 inclusive, by months has been indicated.

Digitized by Google

Tuberculosis

Tuberculosis is the great disease which affects our people. 31,073 cases of all kinds of tuberculosis were reported, of which 30,904 were pulmonary tuberculosis. Appendix XXIX presents a table which shows the number of cases of pulmonary tuberculosis reported in each county during the year 1914. A review of the table would indicate that certain counties, such as Erie, Franklin, Sullivan and Monroe have reported an unusually large number of cases. This should not imply that the health conditions in these counties are notably bad, but it should imply that the health conditions are particularly good, and patients go to these counties from other counties for treatment. We are not in a position to state the number of imported cases. However, an idea of the prevalence of the disease may be determined by reference to an unpublished table prepared by the Division of Vital Statistics showing the number of deaths in each county. In this table the deaths of patients from other counties have been transferred to the county from which they came, so that this table gives a fairly accurate idea of the prevalence of this disease in the State.

Comparison of communicable diseases in 1914 *with the average of the previous six years*

In order to obtain an idea of the relative importance of the various communicable diseases in the State, the following table has been prepared:

DISEASE	Deaths and Reported Cases per 100,000 People. Average for 1908–1913		Deaths and Reported Cases per 100,000 People — 1914	
	Cases	Deaths	Cases	Deaths
Smallpox	6.3	.039	8	.032
Typhoid fever	79	13.6	55.3	8.8
Diphtheria	221	23	226.8	22.5
Scarlet fever	220	13.3	188	6.95
Tuberculosis (Pulmonary)	340	156.9	314	143.9
Measles	640	12.4	484	8.47

In the first two columns the average number of deaths and reported cases per 100,000 people for the years 1908 to 1913 inclusive has been tabulated.

Digitized by Google

In the last two columns the number of cases and deaths during the year 1914 per 100,000 population has been tabulated. From this table it will appear that during 1914 the number of cases of smallpox has increased from 6.3 to 8 per 100,000 population, but the number of deaths has slightly decreased. For typhoid fever the number of cases has decreased from 79 to 55.3 cases, whereas the number of deaths has decreased 13.6 to 8.8. The number of cases of diphtheria has increased from 221 to 226.8, whereas the number of deaths has decreased from 23 to 22.5. For scarlet fever the number of cases has decreased from 220 to 188, and the number of deaths from 13.6 to 6.95. The number of cases of pulmonary tuberculosis has decreased from 340 to 314, and the number of deaths from 156.9 to 143.9. For measles the number of cases has decreased from 640 to 484 and the deaths have decreased from 12.4 to 8.5.

The above indicates a general improvement in the control of these diseases which we hope will continue until they are completely under control.

FEBRUARY 1, 1914.

Respectfully submitted,

F. M. MEADER, M. D.,
Director.

Digitized by Google

APPENDIX I

VACCINATIONS PERFORMED IN VARIOUS CITIES OF NEW YORK STATE DURING 1913

PLACE	Population	Number of vaccinations
Rochester	235,968	4,500–4,600
Glens Falls	16,096	.....
North Tonawanda	12,892	884
Binghamton	51,300	20
Ossining, village	12,629	240
Schenectady	86,305	71
Hornell	14,169	.....
Syracuse	146,480	3,770
Hudson	12,030	.....
Troy	77,382	732
Rome	22,172	26
Oswego	23,747	550
Lockport	19,436	.....
Peekskill, village	16,832	.....
Watertown	28,364	7
New Rochelle	33,461	.....
Port Chester, village	14,551	.....
Buffalo	446,889	18,054
Cortland	12,313	4
Newburgh	28,733	9
Albany	102,344	2,800
Lackawanna	17,951	.....
Plattsburg	12,015	*2,000
Saratoga Springs, village	12,784	.....
Dunkirk	19,040	*150
Poughkeepsie	29,203	.....
Geneva	13,099	.....
Corning	14,596	*200
Cohoes	24,968	.....
Elmira	37,664	*2,000
Olean	15,715	.....
Gloversville	21,386	.....
Kingston	26,354	.....
Utica	80,246	500–600
Middletown	15,570	30
New York	5,372,983	89,607
Amsterdam	34,283	.....
Total	7,161,950	*126,254

* Approximate.

APPENDIX II

VACCINATIONS BY MONTHS

1914

January	1,524	September	35,405
February	4,296	October	9,621
March	2,098	November	2,352
April	1,315	December	118
May	1,862	Date unknown	44,265
June	3,678		
July	7,837	Total	131,336
August	16,965		

Digitized by Google

APPENDIX III

SUMMARY OF REPORTS OF VACCINATION IN NEW YORK STATE, 1908–1914 INCLUSIVE

Cards reporting smallpox during 1908 show:

Never vaccinated	508	
Vaccinated in infancy.....	46	(adults)
Reported as vaccinated over 5 yrs.	48	
Vaccinated over 4 years.....	2	
Vaccinated over 3 years.....	1	
From 1 to 14 days prior to the appearance of smallpox	8	(not reliable)
No data revaccination.....	40	
Number of cases no information..	131	
Total number of cases.....	784	

Many cases were not reported on the individual cards but were reported with the monthly report of the health officers, therefore we are unable to give any information concerning them.

Cards reporting smallpox during 1909 show:

Reported as never vaccinated....	333	
Reported as vaccinated over 2 yrs.	1	
Reported as vaccinated over 3 yrs.	1	
Reported as vaccinated over 5 yrs.	14	
Reported as vaccinated over 10 yrs.	3	
Reported as vaccinated over 15 yrs.	7	(1 shows no scar)
Reported as vaccinated over 20 yrs.	22	
Number of cases no information..	5	
Total number of cases.....	386	

Digitized by Google

Cards reporting smallpox for 1910 show:

Reported as never vaccinated....	246	
Reported as vaccinated over 2 years and under 3 years.....	5	
Reported as vaccinated over 3 years and under 4 years.....	1	
Reported as vaccinated over 5 years and under 10 years.....	6	(2 show no scars)
Reported as vaccinated over 10 years and under 15 years.....	4	
Reported as vaccinated over 15 years and under 20 years.....	2	
Reported as vaccinated over 20 years	23	
Number of cases no information..	66	
Total number of cases.....	353	

Cards reporting smallpox during 1912 show:

Reported as never vaccinated....	706
Reported as vaccinated over 2 yrs.	2
Reported as vaccinated over 3 yrs.	4
Reported as vaccinated over 5 yrs.	13
Reported as vaccinated over 10 yrs.	11
Reported as vaccinated over 15 yrs.	1
Reported as vaccinated over 20 yrs.	47
No data given.....	110
Total number of cases.....	894

Of those over 20 years there were 8 vaccinated over 60 years, 8 over 50 years, 10 over 40 years previously.

One case reported as vaccinated 12 days before onset; 1 case reported as vaccinated 15 days before onset; both from Niagara Falls.

Digitized by Google

Cards reporting smallpox for 1913 show:

Reported as never vaccinated....	475
Reported as vaccinated over 2 yrs.	1
Reported as vaccinated over 3 yrs.	1
Reported as vaccinated over 5 yrs.	8
Reported as vaccinated over 10 yrs.	26
Reported as vaccinated over 15 yrs.	7
Reported as vaccinated over 20 yrs.	20
No data given	285
Total number of cases.....	817

Cards reporting smallpox for 1914 show:

Reported as never vaccinated....	618
Reported as vaccinated over 2 yrs.	1
Reported as vaccinated over 3 yrs.	2
Reported as vaccinated over 5 yrs.	9
Reported as vaccinated over 10 yrs.	6
Reported as vaccinated over 15 yrs.	4
Reported as vaccinated over 20 yrs.	39
No data given	112
Total number of cases.....	791

SUMMARY

Reported as never vaccinated.....	2,886
Reported as vaccinated over 5 years.....	98
Reported as vaccinated over 20 years.....	151
No reports	719

Digitized by Google

APPENDIX IV

THE SMALLPOX EPIDEMIC AT NIAGARA FALLS*

LINSLY R. WILLIAMS, M. D.
Deputy Commissioner of Health

General description

The city of Niagara Falls is situated on the easterly shore of the Niagara river midway between Buffalo and Lake Ontario. The city of Niagara Falls was incorporated in the year 1893, having previously been an unincorporated village in the town of Niagara Falls. In 1892 the town of Niagara Falls, including the unincorporated village, had a population of 12,638; in 1900 the city of Niagara Falls, excluding the surrounding township, had a population of 19,457, and in 1910 — 30,445.

Before its incorporation as a city, Niagara Falls was famous for its falls, and consisted chiefly of a few hotels and boarding houses and a number of other residents whose livelihood depended largely upon the tourist trade. Before being incorporated as a city it began to grow as a manufacturing village, and after the installation of the electric power plant, developed by means of the water power taken from the falls, its manufacturing growth rapidly increased as well as its population.

Its population is mainly native-born white, being 59.5 per cent. — 25 per cent. of native parentage; 34.1 per cent. are of foreign or mixed parentage, and 39.6 per cent. foreign-born white. Of the foreign-born, nearly 4,119 are Canadians, 1,272 English, 832 Germans, 839 Irish, 1,926 Italians, 1,395 Russians, 860 Austrians, the remaining number of foreign-born amounting to about 750. By far a large majority of the inhabitants are of the better class citizens — mechanics, etc., and although a fairly large percentage are foreign-born yet these foreign-born are, in the main, intelligent.

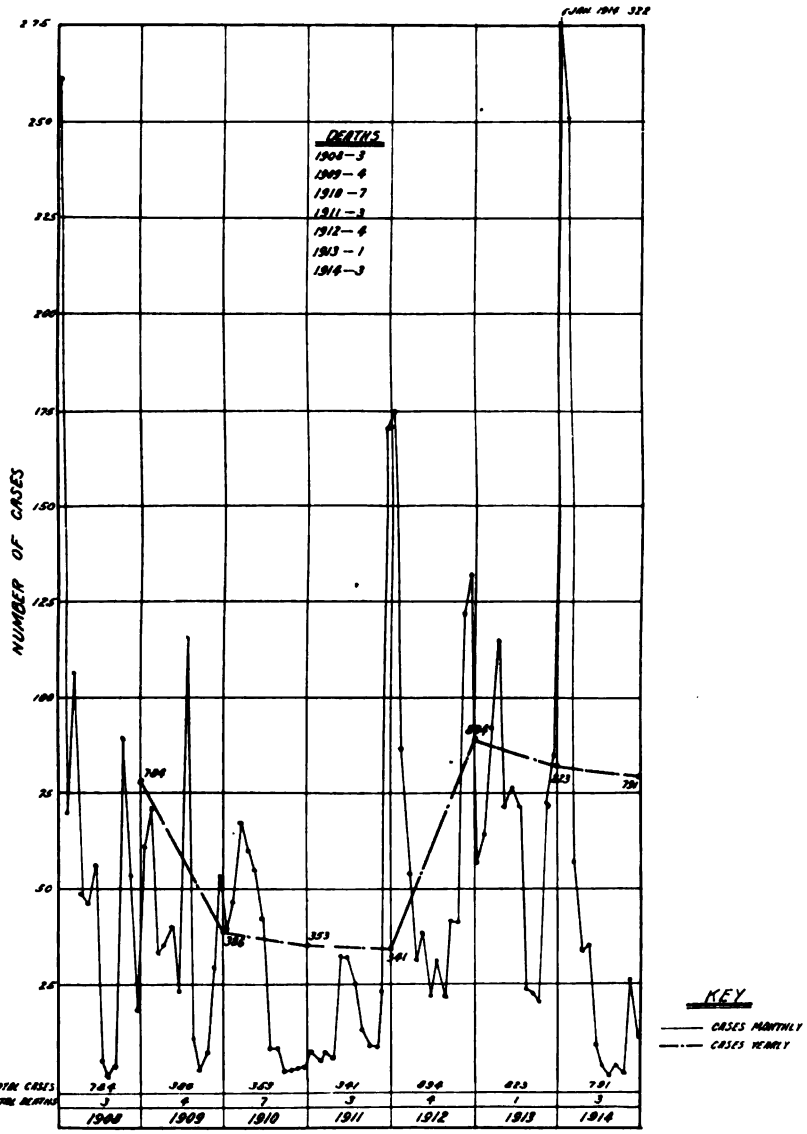
Niagara Falls, like many other cities in New York State, especially in the western part of the State, is quite enthusiastic

* Read before the General Sessions, American Public Health Association, Jacksonville, Fla., December 1, 1914.

Digitized by Google

APPENDIX TABLE III

SMALLPOX IN NEW YORK STATE BY MONTHS AND YEARS 1908 TO 1914.



UNIV. OF MICH.
Digitized by Google

Digitized by Google

about home rule, and has to a certain extent considered interference from the central State authorities at Albany as being unnecessary and onerous. In this connection it is interesting to note the typhoid rates for Niagara Falls:

Deaths per 100,000:

1900–5	141.5
1906	154.5
1907	126.0
1908	87.1
1909	74.9
1910	97.9
1911	187.0
1912	71.5
1913	29.4

An investigation of the sanitary conditions of the city of Niagara Falls was carried on by the Engineering Division of the State Department of Health during the summer of 1907, following which the Department urged a new or filtered water supply. Apparently continuing to believe in the principle of home rule no attention was paid to these recommendations, and in 1910 another investigation followed and not only the city authorities but the people of Niagara Falls were warned of the danger of continuing to use the unfiltered river water for drinking purposes. It was not, however, until December, 1911, that filters were installed with the addition of hypochlorite treatment. The table shows a marked reduction in the death-rate per hundred thousand population since the installation of these filters.

History of the epidemic

The first compulsory vaccination and revaccination law went into effect in Japan in 1885. Notwithstanding the enactment of this law they record in Japan during the following three years 125,000 cases of smallpox, with a mortality of 25 per cent. In 1860 the Legislature of the State of New York enacted a law which reads that "no child or person not vaccinated shall be admitted or received into any of the public schools of the State, and the trustees or other officers having in charge the management

Digitized by Google

or control of the schools shall cause this law to be enforced." Notwithstanding this law there have occurred in New York State during the past seven* years an average of 613 cases of smallpox a year, the large majority of these cases occurring in adults. Both of these facts have led the opponents of vaccination to conclude that vaccination does not protect against smallpox.

A review of the facts connected with the Niagara Falls epidemic explains to a certain degree the reason for smallpox continuing to be present in New York State.

On April 18, 1912, the health officer of Niagara Falls asked for assistance in the differential diagnosis of smallpox from chickenpox. The following day a diagnostician from the State Department of Health diagnosed five cases of smallpox in one family, none of which had ever been vaccinated. The original case in this family was discovered in March in a little child ill with what was believed to be chickenpox. The health officer could not trace the source of the first case. The family lived near the railroad yards, and the child was said to have played with Italians who passed by to and from their work. Two cases across the way developed from this original focus. Chickenpox was not a reportable disease, and chickenpox had been prevalent at the Falls.

On May 9 a diagnostician was again sent to Niagara Falls and found two girls aged 9 and 11 who attended the same school that the children in the previously mentioned family did. Neither of these children had ever been vaccinated.

It was well known to the State Department of Health that Niagara Falls was an anti-vaccination center and that serious danger of a large number of cases occurring there existed. It was also known that this sentiment would cause serious difficulty in controlling an epidemic.

The following instructions were given to the health officer May 9:

To vaccinate all persons directly exposed, or else quarantine them for at least two weeks.

To notify the managers of shops and factories where persons had been exposed to require such persons to be vaccinated before they returned to work.

---

* See Table No. 18

Digitized by Google

Although the health officer was well-intentioned, it took exactly twenty months to carry out these two suggestions. These instructions were given to the health officer, and no further requests for assistance were made until the following year, although cases were reported to the State Department of Health each month during the remainder of the year. No general vaccinations were performed, and no serious effort made to control the disease, and only a few of the cases were sent to the quarantine hospital.

The next news about smallpox at Niagara Falls was received from the State Commissioner of Health of Pennsylvania, who wrote on January 14, 1913, that two men with smallpox had come to Centre County, Pennsylvania, from Niagara Falls. On January 23 another case was reported from Lewisburg, Pa., that had been traveling in Western New York.

On January 25, 1913, the health officer of Niagara Falls was notified of these facts, but no action was taken owing to a new health officer being appointed about February 1, 1913.

On February 21, 1913, the new health officer reported to the State Department that there were ten cases of smallpox in the city, and asked for assistance. A diagnostician was again sent and he found two positive cases in the quarantine hospital.

Early in the year an article appeared in a Memphis paper urging vaccination, and written by W. A. Evans of the Chicago *Tribune,* who referred to Niagara Falls as a "Plague spot" and stated that there were eight new cases of smallpox reported the week ending February 26. This statement was apparently challenged by the Christian Science Committee on Publications of the State of Tennessee, who telegraphed the mayor of Niagara Falls asking if the statements were true, and received no answer. This Committee then telegraphed the president of the Board of Education of Niagara Falls and received the following reply: "Statement that smallpox is epidemic in Niagara Falls absolutely without foundation. Not a single case of the disease in the city." This statement was written when the health officer knew of ten cases of smallpox in the city.

The State Department of Health again made recommendations to the health officer, but no definite action was taken, and not until

Digitized by Google

on November 26, 1913, was another request received for assistance, and again cases of both smallpox and chickenpox were found.

On December 14, 1913, another request was made for assistance, apparently as a result of a threat of quarantine made by Buffalo. For the first time since the cases developed at Niagara Falls the physicians were assembled and urged to cooperate and vaccinate exposed persons. The physicians met with the Board of Health, but no definite instructions were formulated by either state or local department at that time.

On the 19th of December and again on the 28th and 29th the State Department of Health sent a representative who found the situation much the same — new cases constantly occurring and but little activity among the city fathers, except talk. The health officer, an informed and competent physician, was utterly unable to do more than have several schools closed, and the year 1913 closed with little having been accomplished.

On January 3, 1914, a letter was sent to the leading citizens urging the importance of vaccination, and the leading manufacturers were persuaded to urge their employes to be vaccinated. In one instance where a case of smallpox was found in a factory the manager offered free vaccination or two weeks lay-off without pay, and only seven out of ninety-seven employes accepted vaccination.

On January 6 there were fifty-one active cases, most of which were in their own homes. On this day the mayor, the health officer, the Health Board and Industrial Commission held a conference with the representative of the State Health Department, and the department's representative urged that nurses be employed to inspect the schools and factories and that every suspicious case be quarantined, and that this quarantine be rigidly maintained, and that special physicians be designated for vaccination.

By the 9th of January some actual progressive work was being performed; house quarantine enforced by special officers; physicians investigating and giving free vaccinations (over 700 vaccinated this day); seventeen nurses making daily visits to schools, factories and homes; a daily citizens' meeting with the

Digitized by Google

Health Board to discuss the situation, and an earnest desire on the part of the manufacturers to have the epidemic controlled.

Notwithstanding all these efforts "the man on the street" said that there was no smallpox in Niagara Falls; that vaccination was killing lots of people; antivaccination literature was freely distributed, and the local papers were openly or tacitly sympathetic to the antivaccinationists.

On January 12 there were seventy-five known cases, with but few of these in the quarantine hospital, which with accommodations for thirty patients had never been filled. Vaccination was proceeding — about 500 a day.

Smallpox began to be reported from cities, towns and villages nearby.

By January 19 the quarantine hospital was filled, and sixty-six houses were under quarantine. In most of the houses where cases had occurred, secondary cases followed, vaccination having been refused, and 110 special police were employed.

On January 20 there was a change of administration at Albany, which had for some days been pending, and Dr. Hermann M. Biggs was appointed Commissioner of Health, and the day following a special representative of the State Department was authorized to go to Niagara Falls and take entire charge of the situation. On January 27 more urgent measures were adopted. The local Department of Education refused to do anything in regard to the compulsory vaccination law.

The attention of the local authorities was called to the fact that the health officer had, by city ordinance, power to remove any case of smallpox from his home to the quarantine hospital. The city attorney, however, openly advised against this procedure as being illegal and unconstitutional until the Attorney-General of the State handed down an opinion that this city ordinance was legal and constitutional.

On January 28, 1914, a bulletin was issued to the health officers of New York State, calling their attention to the amount of smallpox in New York State.

On the same day the following telegram was sent to Dr. Edward Clark, the State Department's representative at Niagara Falls:

"More radical measures must be taken in Niagara Falls to suppress the epidemic of smallpox. The people of other portions of the state must be pro-

Digitized by Google

tected against the follies of any local community at whatever cost may be necessary.

"I should much prefer that the Department should act in coöperation with the local authorities rather than issue direct orders for enforcement.

"In my judgment the following measures should be immediately adopted by the local authorities:

"1. Close all places of public assemblage; churches, theaters, dance halls, moving picture shows, similar places of entertainment, public libraries, et cetera.

"2. Close the public schools, or exclude from attendance all unvaccinated school children.

"3. Close the factories and workshops of all kinds, or exclude all unvaccinated employees.

"4. Close the hotels, or require the vaccination of employees.

"5. Enforce rigid quarantine against all houses containing smallpox cases and all exposed and unvaccinated persons.

"6. Remove to isolation hospital all cases of smallpox so far as accommodations permit.

"7. Enforce strictly all the provisions of the Sanitary Code of the City of Niagara Falls.

"Kindly request the mayor to call a meeting of the local authorities, prominent business men, and manufacturers and present this telegram to them.

"It would be most unfortunate, in my judgment, from all points of view, if it should become necessary to absolutely isolate Niagara Falls from its relations with other portions of the country.

"Kindly advise me what decision is reached and what action is taken. Do you desire further assistance?

H. M. BIGGS."

On January 29 the mayor, health officer, and business men held a meeting and unanimously adopted a series of resolutions embodying all the recommendations of the State Department. These resolutions were also adopted by the Niagara Falls Board of Health.

A large number of persons in Niagara Falls still believed that smallpox was not present; that it was all a bluff, and vaccination was being enforced because the physicians needed business. And others believed the commissioner's suggestion of January 28 that it might become necessary to isolate Niagara Falls from the rest of the world, was also a bluff.

The State Department of Health had received assurances from the railroads passing through Niagara Falls that notices would be placed in all stations in New York, and warnings in all passenger cars whenever desired, and that if necessary no passengers would be allowed to depart from or alight at Niagara Falls.

Digitized by Google

Notices were printed and in readiness for distribution January 31, 1914, as follows:

WARNING! SMALLPOX!

HERMANN M. BIGGS, M. D.,
Commissioner.

NEW YORK
STATE DEPARTMENT OF HEALTH
ALBANY

MR. A. H. SMITH, *President, New York Central Railroad, Grand Central Terminal, New York City.*

Dear Sir: There exists at the present time an epidemic of

SMALLPOX AT NIAGARA FALLS

due to the local prejudice against vaccination. There is serious danger of the transmission of the disease along the lines of the railroad to all parts of this state and to other states. There is also danger of infection of the railroad employees. Before taking any more drastic action in relation to the existing situation, we wish to ask the assistance and coöperation of the officers of the transportation lines running into Niagara Falls in respect to the following measures:

1. That the officers of your company use every means to induce your employees, especially on the divisions west of Syracuse, to protect themselves from infection by immediate vaccination.

2. That in case of illness of any employee living in Niagara Falls, notification be immediately sent to the health officer of the city.

3. That your employees be warned to mingle as little as possible with the citizens of Niagara Falls.

4. That all persons who have no business to transact and who are not entering or leaving trains at Niagara Falls be excluded from the station.

5. That a notice be hung at the end of every passenger car on every train stopping at Niagara Falls, warning passengers of the existence of smallpox and cautioning them against stopping in Niagara Falls, unless they have been protected by a recent and successful vaccination.

There are at the present time about 133 cases of smallpox at Niagara Falls. We hope by the adoption of active measures to prevent further extension of the disease, and we ask for your assistance and coöperation to this end. Notices for posting in railroad stations are being forwarded.

Very sincerely yours,
HERMANN M. BIGGS,
Commissioner of Health,
New York State.

WARNING

SMALLPOX

EXISTS IN EPIDEMIC FORM IN NIAGARA FALLS.

Passengers are warned not to stop there unless they have been protected by recent and successful vaccination.

BY ORDER OF THE NEW YORK STATE DEPARTMENT OF HEALTH.

Digitized by Google

Fully realizing the incalculable monetary damage that such a procedure would cause their city, redoubled efforts were made by the business men to secure the vaccination of their employes and all other persons.

The commissioner, having received assurances from the mayor, board of health, and business men, that his recommendations would be carried out to the letter, the order was rescinded.

The activity of the Niagara Falls authorities was made the more zealous because the Dominion had quarantined Niagara Falls and had guards at the Canadian end of the bridge over Niagara river, and allowed no one to enter on foot, vehicle or trolley without a vaccination certificate.

On February 5, 1914, the following official bulletin was issued to all the health officers of the State, giving detailed directions for the control of smallpox, as follows:

"Smallpox now exists in epidemic form in Niagara Falls and new cases in nearby places are almost daily coming to the attention of the department. Twelve cases in nearby outlying towns which had not been reported were discovered by a representative of the department last Thursday, and on Friday in two other towns, eight were found which had been diagnosed as chickenpox. Some of these were of a severe type and recovery is uncertain.

"This condition of affairs must not continue. Every case of smallpox or chickenpox, as well as every other case of any reportable disease, *must be promptly reported* to the local health officer, as required by law.

"You are hereby directed to at once take active measures to secure the prompt report of every case of infectious disease occurring in the territory under your jurisdiction, and to report the same to the State Department of Health as required by law. It is the duty of every physician, nurse, teacher, clergyman, householder, employer, police officer, hotel or lodging house keeper, head of a family or other person who has knowledge of any such case to report it to the health officer.

"Upon being informed of the existence of a case of any contagious disease you are further directed to at once adopt such measures as are necessary to prevent its spread.

"In dealing with *smallpox* you are directed to take the following action:

"1. Every case diagnosed as smallpox shall be immediately isolated and kept isolated until the patient has fully recovered and all danger of the transmission of the disease has passed. If an isolation hospital is available within your jurisdiction every such case must be immediately removed there. Health officers have full power to cause such removal by force.

"2. Every suspected case of smallpox should be isolated until a definite diagnosis has been made, and all exposed persons should be at once vaccinated.

"3. Every person known to have been exposed to smallpox (contacts) should be immediately vaccinated. If the vaccination is within 48 hours of

Digitized by Google

the time of the *first* exposure the person may be required to report for observation daily to the health officer, or to someone designated by him, until the vaccination takes or until a period of sixteen days from the *last* exposure has elapsed. If the first vaccination is not successful, all such persons should be revaccinated. These persons need not be quarantined if they are seen daily, and immediately isolated on the appearance of any symptoms.

"4. All persons exposed to smallpox who have *not* been recently successfully vaccinated and whose first exposure antedates forty-eight hours and who are immediately vaccinated, should be isolated and quarantined until the vaccination has definitely taken (for at least one week), or if the vaccination fails, until the full period of incubation of smallpox (sixteen days from the last exposure) has elapsed.

"5. All persons exposed to smallpox, who have been vaccinated recently with a successful result, may be immediately discharged from observation.

"6. All persons known to have been exposed to smallpox and who refuse vaccination, should be strictly quarantined for sixteen days from the date of the last exposure.

"7. A record should be kept of the names and addresses of all exposed persons, the action taken with reference to each, the date of vaccination, the dates of observation, with notes of the results of vaccination, (whether successful or not), and when revaccination is done, the date of this.

"8. When a person suffering from smallpox is quarantined in a house or an apartment a record should be made of the name and age of every person living in the house and these quarantined, and their presence in the house should be verified daily.

"9. If any person under quarantine escapes from observation, every effort should be made to determine where such person has gone and immediate notifications made to the Department of Health at Albany.

"10. During the prevalence of smallpox in the state the diagnosis of every case of chickenpox reported to you should be confirmed by a representative of the local health department, and such cases should be immediately reported to the Department of Health at Albany. In any case where the diagnosis is doubtful the patient should be isolated immediately, all exposed persons should be vaccinated, and the State Department of Health notified.

"11. You are requested to make a weekly report to the Department of Health of the number of vaccinations performed by you and also the number performed by others in your district so far as known to you.

"12. If the law excluding unvaccinated persons, whether school children or teachers, from the schools under your jurisdiction has not been enforced, you are requested to notify the State Department of Health and to direct the attention of the school authorities of the district to this fact.

"A campaign of education concerning the benefits of successful vaccination should be inaugurated in your district and carried on with vigor. This can only be accomplished by a strict compliance with these directions and by the practice of general vaccination, especially of all persons living in those sections of the state where smallpox is prevailing.

H. M. BIGGS."

Digitized by Google

On February 7 one factory in Niagara Falls still refused to obey the recommendation that it be closed or its employes be vaccinated, and again it was necessary to threaten isolation of the city.

On February 9 the following notice was posted at the above mentioned factory:

"IMPORTANT!

"Tomorrow — Wednesday morning, be sure and bring certificates of vaccination or evidence of vaccination which it will be necessary for you to have before you can start work.

"Automatic Dept., Storehouse, Engine Room employes will present certificates at Automatic door, all other employees at general entrance on Highland Avenue.

"There can be no exceptions made."

By February 12 it was estimated that 18,923 vaccinations had been performed, and it was expected that there would soon be a diminution of the number of cases.

January 30 .....76 houses quarantined.
February 6.....61 houses quarantined.
February 13 .....35 houses quarantined.

For the first time an appreciable improvement.

On February 17 a delegation consisting of the mayor of Niagara Falls and seven business men came to Albany asking for the removal of restrictions and that less publicity be given to smallpox in Niagara Falls, to which request the commissioner made the following answer:

"The policy the department will pursue is one of complete publicity. That is the only way in which we can hope to obtain and retain the confidence of the public. If we say that there is no danger in any given situation we want the public to believe us. If we say that wholesale vaccination is necessary we want to have our advice followed. Any other policy than that of absolute honesty and full and frank publicity in public health work is ruinous. If you have smallpox, admit it and let other people know it. Through concealment you delude yourselves and lay others open to danger from which they cannot protect themselves. That is why we have given to the press such communications as we have found necessary to send to Niagara Falls."

On February 25 there were fifteen houses quarantined, containing thirty-nine cases; fifteen in hospital.

February 26, 13 houses quarantined. Total 48 cases.
February 27, 12 houses quarantined. Total 46 cases.
February 28, 12 houses quarantined. Total 43 cases.
March 3, 9 houses quarantined. Total 33 cases.

Digitized by Google

HENRY F. VAUGHAN LIBRARY

March 4, 7 houses quarantined. Total 25 cases.
March 5, 7 houses quarantined. Total 23 cases.
March 6 (total vaccinations to date — 25,184).
March 8, 6 houses quarantined. Total 17 cases.
March 9, 4 houses quarantined. Total 11 cases.
March 10 (churches and places of public assemblage allowed to open).
March 10, 3 houses quarantined. Total 13 cases.
March 11, 3 houses quarantined. (1 new case reported.) Total 13 cases.
March 12, 2 houses quarantined. (Public vaccination station closed.) Total 12 cases.
March 13, 2 houses quarantined. Total 12 cases.
March 15, 1 house quarantined. Total 10 cases.
March 16, 1 house quarantined. Total 10 cases.
March 17, 1 house quarantined. Total 7 cases.
March 18, 0 houses quarantined. Total 6 cases.
March 26, 0 houses quarantined. Total 1 case.
March 27, no new case since the 11th.

The Niagara *Press* on this date stated that there had been a few cases of Cuban itch and chickenpox at Niagara Falls, but no smallpox.

On March 30 the last case was released from the quarantine hospital.

One case was reported early in April, and on April 28 one case was reported, the last to date.

Type of cases

The general type of cases was mild and discrete. There were few patients who were really seriously ill and there was only one death. No definite attempt was made to determine the actual period of incubation, but in those cases which were definitely noted it was found that from 12 to 15 days was the usual period after known exposure.

Clinical symptoms

The clinical symptoms were very similar to those commonly described. The prodromal symptoms of headache were usually frequent and almost always severe backache, and a feeling of malaise, lasting from 2 to 3 days, and occasionally nausea and vomiting and a slight temperature. With the onset of the eruption there was an abatement of the severe backache and a diminution of the fever, and many patients felt well enough to go out and

Digitized by Google

were up and about and frequently were found at work during the eruptive stage.

The large majority of cases was discrete, although there were a number of confluent and semiconfluent cases. No cases of hemorrhagic type were observed. The one patient that died had a septic condition.

Statistical

Reported cases of smallpox in New York State by months from January, 1908, to November 27, 1914:

YEAR	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1908	265	71	108	49	48	59	8	4	5	92	55	20	784
1909	63	72	32	33	42	25	16	12	2	7	29	53	386
1910	51	50	69	61	55	41	10	10	1	1	2	2	353
1911	7	5	6	5	34	33	25	14	9	9	24	170	341
1912	178	88	54	33	41	24	35	22	44	48	192	135	894
1913	67	64	94	129	87	77	72	27	24	21	73	88	823
1914	322	251	59	37	38	11	3	1	3	2	7	...	734
Total	...	...	...	...	...	...	...	...	...	...	...	...	4,315

Reported cases of smallpox in Niagara Falls from 1908 to 1914, according to date of report:

YEAR	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1908	1	....	1	6	....	2	....	....	....	....	....	.....
1909	....	1	....	1	....	....	....	....	....	....	....	1
1910	4	....	....	....	4	1	....	....	....	....	....	1
1911	1	....	....	1	....	....	....	....	....	....	....	.....
1912	....	....	....	9	10	5	13	16	3	1	2	9
1913	9	18	3	3	9	7	4	6	5	9	66	57
1914	204	121	10	2	1	....	....	....	....	....	1	.....

In the year 1908 there were 10 cases of smallpox in Niagara Falls; 3 in 1909; 10 in 1910, and 2 in 1911, an average of 6.25 per year, or approximately 20 per hundred thousand per year, the population of Niagara Falls at that time being 30,000. This would have meant in New York City 1,000 cases per year, or 2,000 cases per year throughout the State, during which time the number of cases of smallpox throughout the State averaged less than 400.

In 1912 there were 66 cases of smallpox reported from Niagara Falls, or 204 per hundred thousand, which in New York

Digitized by Google

City would mean 10,400 cases, or throughout the State 19,500 cases during that year, whereas the total number of cases in 1912 in the State of New York was 894.

In 1913 there were 176 cases of smallpox reported from Niagara Falls, or 51.7 per hundred thousand, which would mean 26,800 cases for New York City, or 50,200 for the whole State, whereas there actually were for the entire State 823 cases of smallpox reported.

During the year 1914 there were reported from Niagara Falls 339 cases of smallpox, the last case being reported April 30, 1914, that is, 965 per hundred thousand, or 51,800 cases for New York City, or 95,500 cases for New York State, whereas there actually were reported in New York State 734 cases.

From the first of January, 1912, until the 30th of April, 1914, there were reported from Niagara Falls 550 cases of smallpox. Of this number 286 were between the ages of 15 and 45, or 52 per cent. Under 5 years there were 33 cases, or 6 per cent. The complete tabulation of the age groups is as follows:

	1912	1913	1914
Under 1 year	1	2	2
1 to 5 years	3	9	16
5 to 15 years	21	91	64
15 to 45 years	31	110	145
45 and over	11	13	17
Unknown	1	3	10
Total	68	228	254

Occupations

Of these 550 cases 33 were in children under 5 years; 190 were in school children; 52 in housewives; 22 in laborers; 71 in mechanics or operators in factories; 6 among city employes; 3 in mail carriers but employed in the post-office; 8 in railway employes; 2 in teachers; 26 miscellaneous occupations; 8 employes in business occupations, and 112 whose occupations were not given.

Nationality

It was a matter of extreme interest to note that in almost every instance the individual affected was a native-born American, and usually of the more intelligent class. Unfortunately the cards for reporting communicable diseases did not ask the question of

Digitized by Google

nationality, so it is impossible to give definitely the number of cases among foreigners, but it was quite evident to all who had anything to do with the epidemic that it was chiefly among the better class American citizens.

Vaccination

Reference has already been made to the school law enacted in 1860, yet this law has practically been a dead letter and has never been enforced with any degree of vigor. A serious attempt was made to enforce it in the city of Olean in 1912, but the citizens of Olean made such a strong protest against it that the then Commissioner of Education did not enforce it.

The records of the cases of smallpox reported to the State Department of Health from 1908 to date show the following:

That of the 784 cases reported in 1908, 508 or 64.7 per cent. were never vaccinated. In 1909 of the 386 cases reported, 333 or 86.2 per cent. were never vaccinated. In 1910 of the 353 cases reported, 246 or 69.6 per cent. were never vaccinated.

* Total number of cases reported 1908–1914	4,315
Number never vaccinated	2,886
Per cent	73
Vaccinated 5 or more years previously	368
Per cent	9
No data	408
Per cent	10
Per cent vaccinated within 5 years	8

Of the 550 cases of smallpox reported from Niagara Falls during the years 1912, 1913 and 1914, 483 cases or 87 per cent. had never been vaccinated; 26 or 4.6 per cent. had been vaccinated more than five years ago. Out of the 550 cases only 5 gave a history of having been vaccinated within five years, or .9 of 1 per cent.

Strong antivaccination sentiment exists in certain parts of New York State, especially in the western part of the State in the counties of Niagara, Chautauqua and Cattaraugus, the cities of Niagara Falls and Olean having carried on for years a strong antivaccination campaign.

Marked assistance to the campaign has been rendered by the Antivaccination League of America, of which Mr. Chas. M.

* Omitting 341 reported in 1911.

Digitized by Google

Higgins of Brooklyn is treasurer. Dr. John W. Hodge of Niagara Falls, a well-known physician in that locality, with a large practice, is also an ardent antivaccinationist, and during the last twenty years, as far as one can learn, practically no vaccination has been performed in Niagara Falls. This has been well known to the officials of the New York State Department of Health, and an epidemic of smallpox such as occurred in Niagara Falls had long been heralded.

The attitude of the citizens, and especially of the city officials, made the suppression of the epidemic an extremely difficult task, the president of the Board of Education and the city attorney being strong antivaccinationists, and the antivaccination sentiment being particularly strong among the better class of American citizens. Practically no headway was made against the epidemic until the business interests of the city realized that the epidemic was assuming serious proportions and cases were developing not only in the surrounding towns and communities, but that local epidemics were developing in adjacent counties, and that the Commissioner of Health would be compelled to quarantine Niagara Falls from the rest of the State, and as quarantine had already been established by the Province of Ontario against Niagara Falls that there would be serious economic loss if active measures were not taken to suppress the epidemic. Pressure was then brought to bear upon the city authorities, and the recommendations made by the State Commissioner of Health were energetically carried out.

Two weeks after this there was a marked diminution in the number of new cases developing, due chiefly to two facts — one, an opinion by the Attorney-General that the Sanitary Code of Niagara Falls providing that all cases of smallpox should be promptly removed to the quarantine hospital was entirely constitutional and legal; and second, that general vaccination was being performed.

One large manufacturing concern informed the representative of the State Department in January that 50 per cent. of its employes had been vaccinated and that it was not possible to have any more vaccinated. Three weeks later this same concern showed satisfactory evidence that all but three of their employes

Digitized by Google

had been vaccinated, 300 or 400 having been vaccinated. Of these three one was at home sick; one had had smallpox, and the third was on the road as a traveling salesman.

Extension of Smallpox from Niagara Falls

During the years 1912 and 1913 there was apparently no definite extension from Niagara Falls, although a few cases of smallpox did occur in scattered localities having definitely become infected in Niagara Falls. With the beginning of the year 1914 new centers of infection were reported throughout the western part of the State. A few cases occurred in points in Pennsylvania and in New York City. Several new foci developed, which were readily traced to Niagara Falls, and others traced only with difficulty. In one instance a barber escaped from quarantine in Niagara Falls and continued to pursue his trade in a neighboring village, and nearly all of his customers in succession developed smallpox.

Another instance was the meeting of a religious sect known as the Holy Rollers, who met in a county and at this gathering were several residents of Niagara Falls. Two weeks after a large number of the persons who were at this meeting developed smallpox.

At a third gathering in Chautauqua County there was a large number of persons who were exposed at the same time. These persons came from many different parts of the State and were all exposed as one of their members who had active small pox at the time of the meeting. This became known to a newly appointed representative of the State Department of Health, who was able to secure immediately after the meeting the names and addresses of all the persons at the meeting, and who then notified the health officer of the locality in which each individual lived, advising immediate vaccination, which was performed in the majority of the cases. At all events, no further cases developed as a result of this exposure.

No less than 21 foci occurred, which could be definitely traced to Niagara Falls. This is well shown upon a map of New York State.

Digitized by Google

Summary

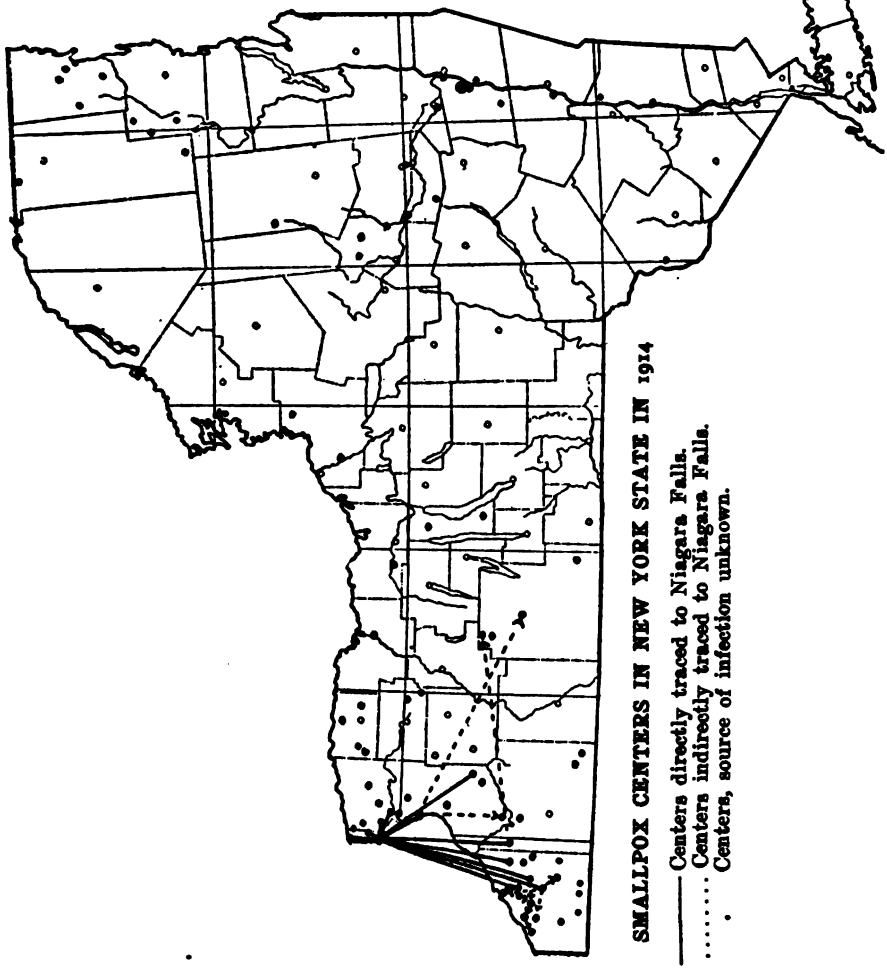
1. Smallpox had been present from time to time in Niagara Falls since 1908. (Records not sent to State Department of Health previous to 1908.)

2. Niagara Falls was well known to be an unvaccinated city.

3. Chickenpox was not reported to the State Department of Health until May, 1914.

4. Smallpox was endemic in Niagara Falls from April, 1912, until May, 1914.

5. Chickenpox was said to be present in Niagara Falls in 1912.



Digitized by Google

6. In the years 1913 and 1914 the existence of smallpox was denied by many intelligent persons in Niagara Falls.

7. The Sanitary Code required the removal of all cases of smallpox to the quarantine hospital. Owing to the attitude of the city authorities this city ordinance could not be enforced.

8. General vaccination did not begin until the second week of January, 1914.

9. Cases of smallpox were not removed from their homes, nor was quarantine of houses rigidly enforced until January, 1914.

10. Unvaccinated contacts in the same houses invariably contracted smallpox.

11. Vaccinated contacts did not develop smallpox.

12. Three weeks after compulsory removal and general vaccination began there was a steady diminution of the number of new cases reported.

13. General vaccination and immediate isolation, with the vaccination of contacts, is the only adequate method of controlling smallpox.

A word of appreciation is due Dr. F. M. Meader, Director of the Division of Communicable Diseases, and to Drs. Edward Clark, Chas. S. Prest and Otto R. Eichel, Sanitary Supervisors, for access to their reports, and assistance in preparing this article.

APPENDIX V

SMALLPOX IN CERTAIN CITIES OF THE UNITED STATES SINCE 1900

CITIES	Cases	Deaths	Per cent of cases died
Philadelphia, 1900	26	.....	.....
1901	1,159	156	13.4
1902	1,302	231	17.7
1903	1,637	278	16.9
1904	887	229	25.7
1905	2	.....	.....
New York City, 1902	1,516	310	20.4
Pittsburgh, 1900	32	.....	.....
1901	107	3	2.8
1902	309	61	19.7
1903	1,022	191	18.6
1904	323	77	23.8
Cleveland, 1900	993	16	.....
1901	1,232	20	1.6
1902	1,230	224	18.2
1903	106	22	20.7
1904	42	.....	.....
Bay City, Mich., 1908	25	7	.....
1909	18	.....	.....
1910	132	30	22.7

Digitized by Google

APPENDIX VI-A

SCHICK TEST*

The toxin used by Schick and his associates is a dilution of such strength that 0.1 c.c. equals 1/50 of the lethal dose for a 250 gm., guinea-pig. The lethal dose of the toxin which Schick uses is 0.005, and hence he injects 0.1 c.c. of a 1-1,000 dilution. In those who react an area of reddening and infiltration develops within twenty-four hours, reaching its maximum in forty-eight hours, and which heals with scaling and a characteristic central pigmentation. Although the reaction is similar to the local tuberculin reaction, its interpretation is directly opposite. The diphtheria toxin is a direct toxic agent and by control test of the blood serum it has been found that a *negative reaction is always associated with the presence of diphtheria antitoxin in the blood of the person tested.* While as a rule a positive skin reaction is an indication of the absence of antibodies, some persons react positively for some unexplained reason who possess a greater amount of antitoxin in the blood than 0.03 units per cubic centimeter.

It has been found that if a negative reaction follows the injection of a 0.1 c.c. of a 1-1,000 dilution of toxin, the individual tested has at least 0.031 units of antitoxin per c.c. in his blood when tested by Romer's method. A person with a higher concentration of antitoxin will react negatively to a smaller dilution of antitoxin and vice versa. Thus the outcome and the degree of reaction are dependent on two factors — the strength of the toxin used and the presence of antitoxin in the blood.

As noted above, it has been found that if a negative reaction follows the injection of 0.1 c.c. of a 1-1,000 dilution of toxin, the blood serum contains at least 0.031 units of antitoxin per cubic centimeter. This is sufficient to afford immunity against infection with the diphtheria bacillus under ordinary circumstances.

A large number of tests on normal individuals has been made and the reactions obtained are given in the following tabulation. Many of these have been controlled by Romer's method.

	Total	Positive	Negative	Per Cent Negative
New-born infants	291	10	275	93
First year of life	42	18	24	57
2 to 5 years	150	95	55	37
5 to 15 years	264	131	133	50

* Borden S. Veeder, *American Journal of Diseases of Children*, August, 1914, p. 159.

Digitized by Google

It is thus seen that a large percentage of individuals are immune to diphtheria. *The age period giving the lowest percentage of negative reaction (2 to 5 years) is the same as that in which the highest incidence of clinical diphtheria is found.* As far as could be determined the reaction remains the same for a period of at least four weeks.

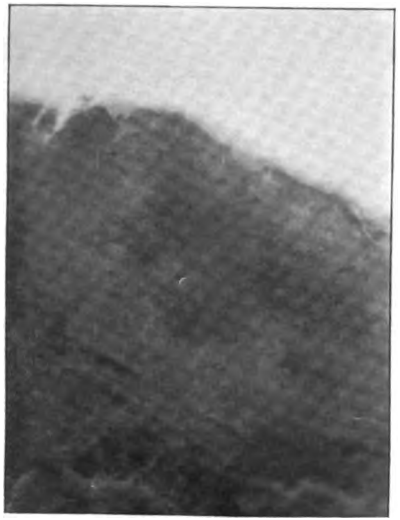
The practical value and application of such results is obvious. Whenever it is necessary to immunize against diphtheria for prophylactic purposes, a diphtheria toxin skin test will show in twenty-four hours those who already possess immunity. Only those reacting positively to the toxin require passive immunization with antitoxin. As roughly 50 per cent. possess immunity this will reduce the number of prophylactic injections one-half. The real extent of such a reduction is seen when one considers that, according to Park, two injections for immunization are given in New York City to one for curative purposes. The liability to sensitization to horse serum is coincidently lessened to the same extent.

APPENDIX VII

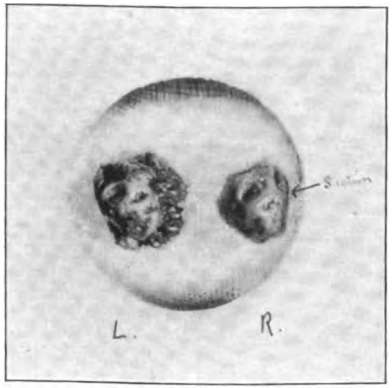
TABLE SHOWING NUMBER OF REPORTED CASES AND DEATHS, ALSO PER CENT. OF DEATHS AMONG CASES OF COMMUNICABLE DISEASES IN NEW YORK STATE, 1913 AND 1914

DISEASES	1913			1914		
	Cases	Deaths	Per cent. died	Cases	Deaths	Per cent. died
Anthrax	.....	7	—	4	2	—
Chickenpox	.....	.....	—	13,532	1	.....
Cholera, Asiatic	.....	.....	—	.....	.....	—
Diphtheria	20,247	1,853	9.1	22,537	2,015	8.9
Dysentery	.....	.....	—	20	191	—
Epidemic cerebrospinal meningitis	333	309	92.7	448	346	77.2
Epidemic or streptococcus sore throat	.....	.....	—	357	9	—
German measles	.....	.....	—	1,603	.....	—
Glanders	.....	1	—	1	1	—
Measles	65,422	1,072	1.6	47,883	839	1.7
Mumps	.....	.....	—	5,759	.....	—
Ophthalmia neonatorum	71	.....	—	57	.....	—
Para-typhoid fever	.....	.....	—	9	.....	—
Plague	.....	.....	—	.....	.....	—
Poliomyelitis	491	123	25.05	224	68	30.3
Puerperal septicaemia	.....	459	—	9	495	—
Rabies	.....	11	—	14	15	—
Scarlet fever	17,263	837	4.8	18,596	687	3.6
Smallpox	823	1	.12	791	3	.37
Trachoma	.....	.....	—	33	.....	—
Tuberculosis	31,123	16,133	51.83	31,073	16,559	53.28
Typhoid fever	6,248	1,018	16.2	5,481	878	16.01
Typhus fever	.....	.....	—	17	3	—
Whooping cough	9,068	822	9.06	11,651	730	6.26
Total	151,089	22,646	.....	160,099	22,842	.....

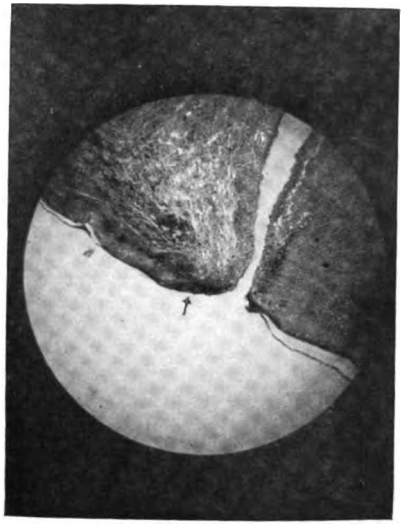
Digitized by Google



Epithelium undergoing necrosis due to presence of diphtheria bacilli. (Numerous black dots)



Tonsils



Arrow indicates location of colony of diphtheria bacilli

TONSILS WITH SECTIONS FROM A DIPHTHERIA CARRIER

Digitized by Google

Digitized by Google

APPENDIX XV

TABLE SHOWING NUMBER OF CASES AND DEATHS FROM VARIOUS COMMUNICABLE DISEASES IN NEW YORK STATE, 1908-1914

YEAR	Cases Reported			Deaths		
	Total	Up State	New York city	Total	Up State	New York city
Measles						
1908	58,738	20,265	38,473	1,175	502	673
1909	52,863	21,072	31,791	1,270	274	996
1910	69,878	34,062	35,816	1,284	510	774
1911	48,675	22,792	25,883	977	319	658
1912	65,060	26,042	39,018	1,050	377	673
1913	65,374	36,024	29,350	1,071	443	628
1914	47,883	22,090	25,793	839	280	559
Typhoid Fever						
1908	6,976	3,811	3,165	1,368	830	538
1909	7,897	4,284	3,613	1,309	745	564
1910	8,536	4,801	3,735	1,374	816	558
1911	8,083	4,426	3,657	1,316	771	545
1912	6,418	3,342	3,076	1,128	629	499
1913	6,248	3,605	2,643	1,018	656	362
1914	5,481	3,221	2,260	878	544	334
Tuberculosis (Pulmonary)						
1908	26,230	3,310	22,920	14,316	5,449	8,867
1909	32,915	6,937	25,979	13,948	5,303	8,645
1910	37,963	5,957	32,006	14,047	5,357	8,690
1911	33,299	8,786	24,513	14,205	5,415	8,790
1912	30,529	7,777	22,752	13,702	5,114	8,588
1913	31,123	8,449	22,674	13,811	5,210	8,601
1914	30,904	9,303	21,601	14,586	5,448	9,138
Diphtheria						
1908	20,759	4,390	16,369	2,468	705	1,763
1909	20,665	4,613	16,052	2,306	591	1,715
1910	22,630	5,404	17,226	2,431	716	1,715
1911	20,007	6,523	13,484	1,961	697	1,284
1912	18,927	5,394	13,533	1,624	498	1,12
1913	20,247	5,662	14,585	1,854	520	1,334
1914	22,537	5,408	17,129	2,015	523	1,492
Whooping Cough						
1908	*	*	*	502	317	185
1909	*	*	*	782	381	401
1910	*	*	*	726	432	294
1911	8,362	5,116	3,246	816	433	383
1912	7,821	5,638	2,183	680	389	291
1913	9,018	5,520	3,498	818	398	420
1914	11,651	7,858	3,798	730	451	279
Scarlet Fever						
1908	30,403	7,467	22,936	1,668	341	1,327
1909	22,747	9,743	13,004	1,204	517	787
1910	31,504	12,220	19,284	1,616	664	952
1911	25,830	10,037	15,793	1,149	408	741
1912	18,579	5,863	12,716	789	174	615
1913	17,263	6,524	10,739	837	330	507
1914	18,596	7,491	11,105	687	235	452

* Not reported.

Digitized by Google

APPENDIX XVI

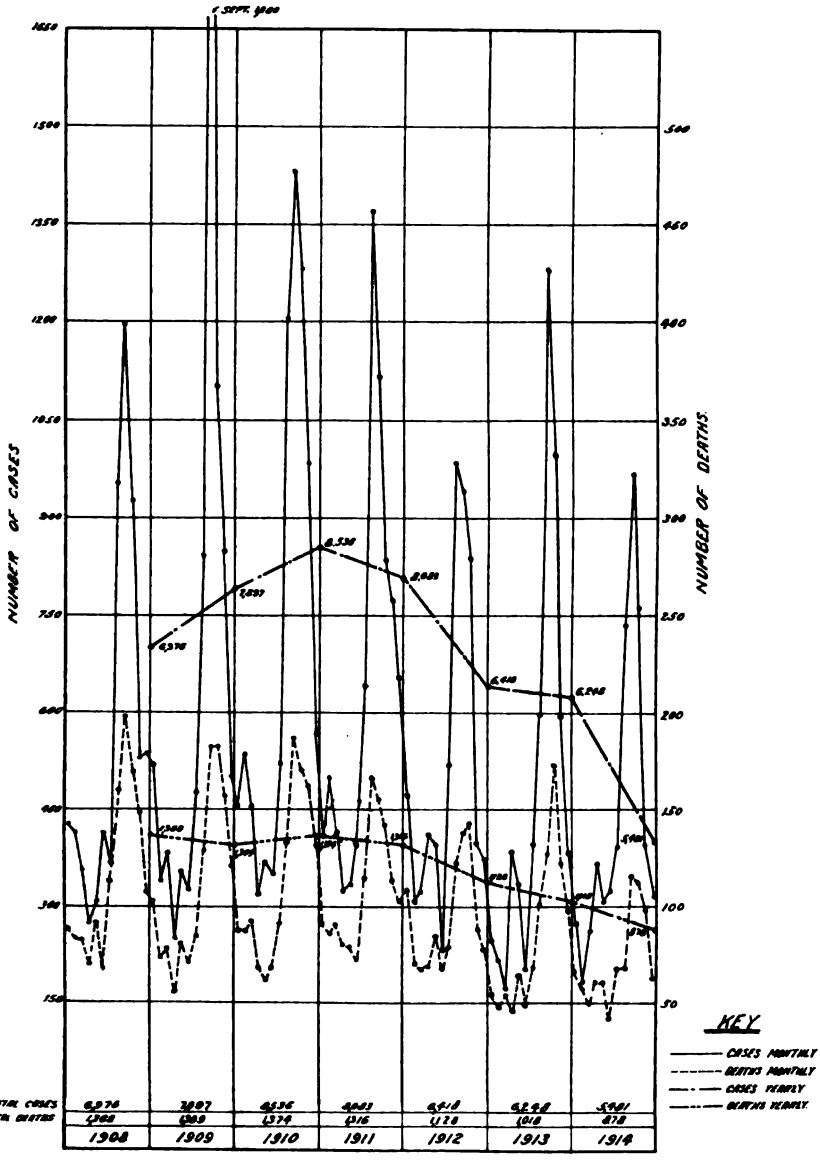
MONTHLY REPORT OF CASES, 1914

DISEASE	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	New York City	Up State	Total State	New York city	Up State	Total State	New York City	Up State	Total State	New York City	Up State	Total State	New York City	Up State	Total State	New York City	Up State	Total State
Anthrax								1	1								2	2
Chicken pox	1,121		1,121	1,156		1,156	1,222	150	1,372	1,217	210	1,427	1,451	221	1,672	1,104	248	1,352
Diphtheria	1,546	515	2,061	1,642	509	2,151	1,512	382	1,894	1,567	306	1,873	1,802	337	2,139	1,737	311	2,048
Dysentery																		
Epidemic c. s. meningitis	19	12	31	22	11	33	29	17	46	23	13	36	37	18	55	47	14	61
Epidemic sore throat											5	5		2	2		231	231
German measles	69		69	85		85	166	12	178	150	174	324	174	271	445	129	111	240
Glanders														1	1			
Measles	1,519	2,847	4,366	2,190	3,068	5,258	3,483	3,506	6,989	4,485	3,407	7,892	5,483	3,393	8,876	4,094	2,353	6,447
Mumps	425		425	490		490	652	7	659	604	157	761	718	136	854	535	114	649
Ophthalmia neonatorum		4	4		6	6		7	7		10	10		3	3		8	8
Para-typhoid fever																		
Poliomyelitis	13	3	16	11	3	14	8	3	11	7	5	12	2	2	4	7	6	13
Puerperal septicemia														1	1			
Rabies		2	2					1	1		2	2	1		1		1	1
Scarlet fever	1,252	717	1,969	1,368	749	2,117	1,677	987	2,664	1,599	834	2,433	1,509	780	2,289	951	565	1,516
Smallpox		332	332	2	251	253	4	57	61	5	38	43	8	33	41	3	8	11
Trachoma					8	8		2	2					3	3		1	1
Tuberculosis	1,699	796	2,495	1,565	673	2,238	1,954	809	2,763	1,955	857	2,812	1,976	741	2,717	2,037	884	2,921
Typhoid fever	100	203	303	75	163	238	64	226	290	127	229	356	108	232	340	147	178	325
Typhus fever																3		3
Whooping cough	220	850	1,070	258	641	899	275	902	1,177	489	940	1,429	387	1,166	1,553	363	914	1,277

Digitized by Google

APPENDIX TABLE VIII

TYPHOID FEVER IN NEW YORK STATE 1908 TO 1914.

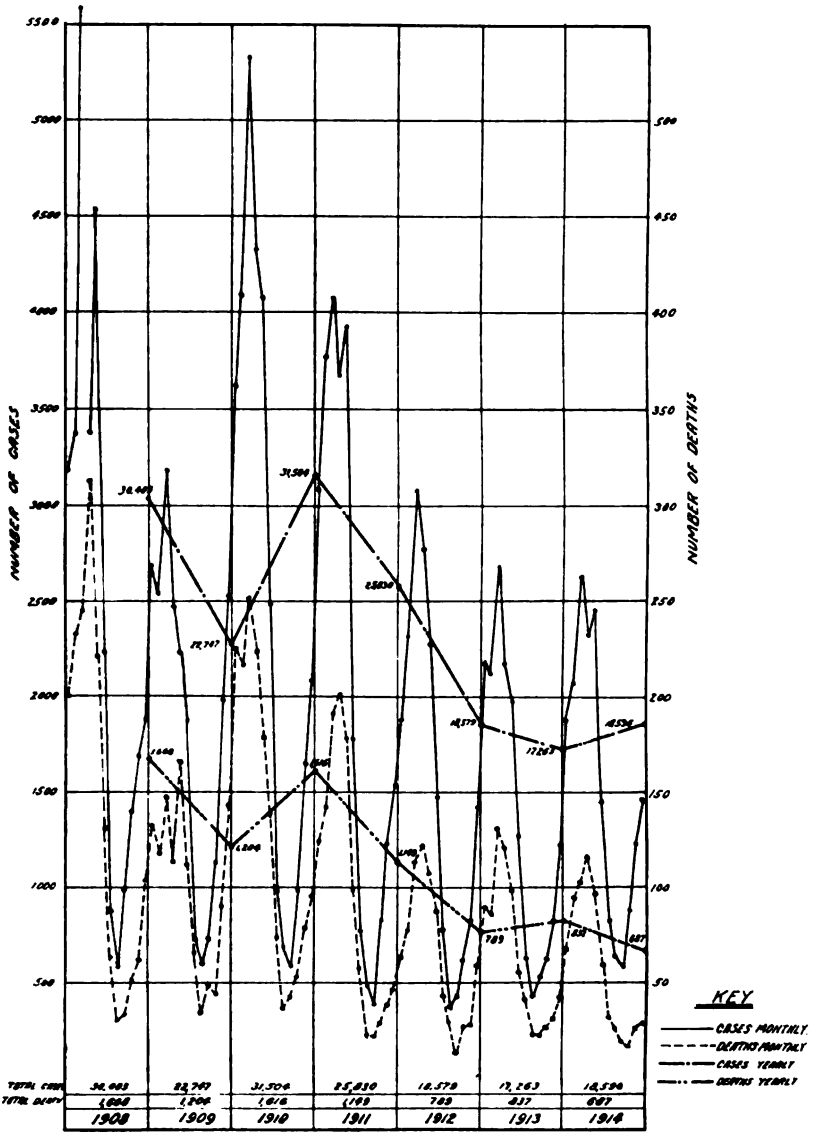


Digitized by Google

Digitized by Google

APPENDIX TABLE IX

SCARLET FEVER IN NEW YORK STATE. 1908 TO 1914.

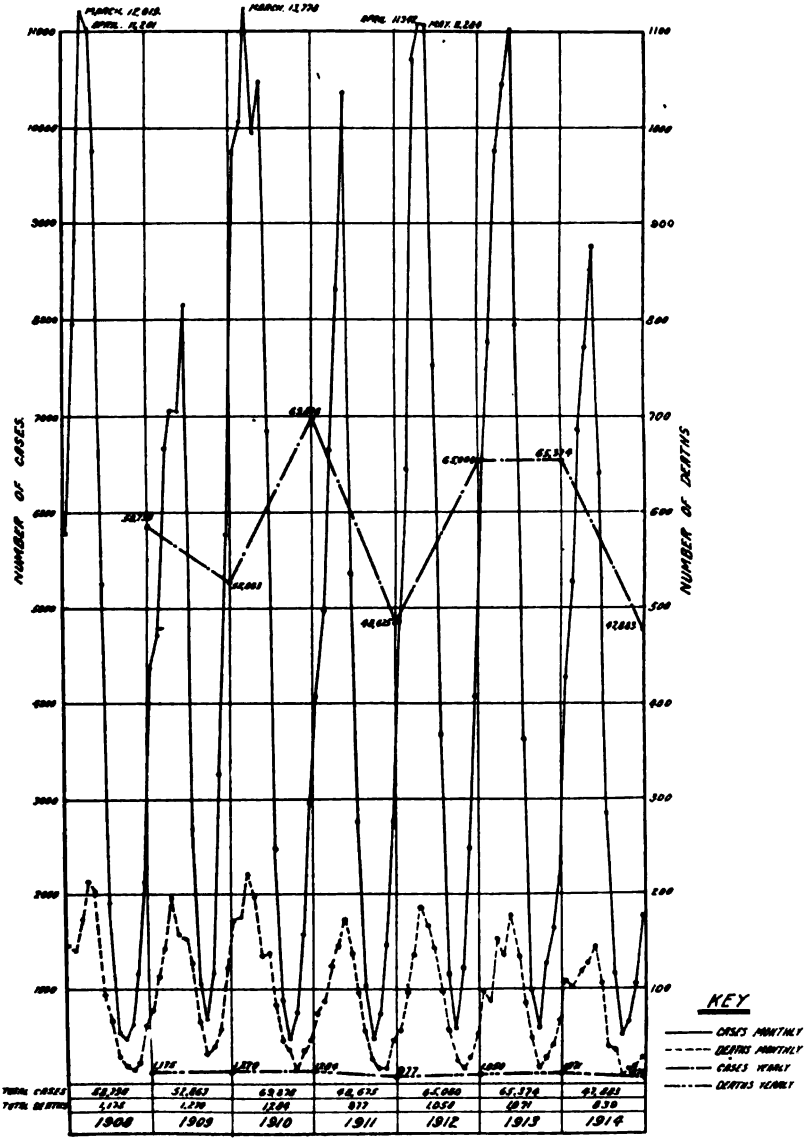


UNIV. OF MICH.
Digitized by Google

Digitized by Google

APPENDIX TABLE X

MEASLES IN NEW YORK STATE. 1908 TO 1914

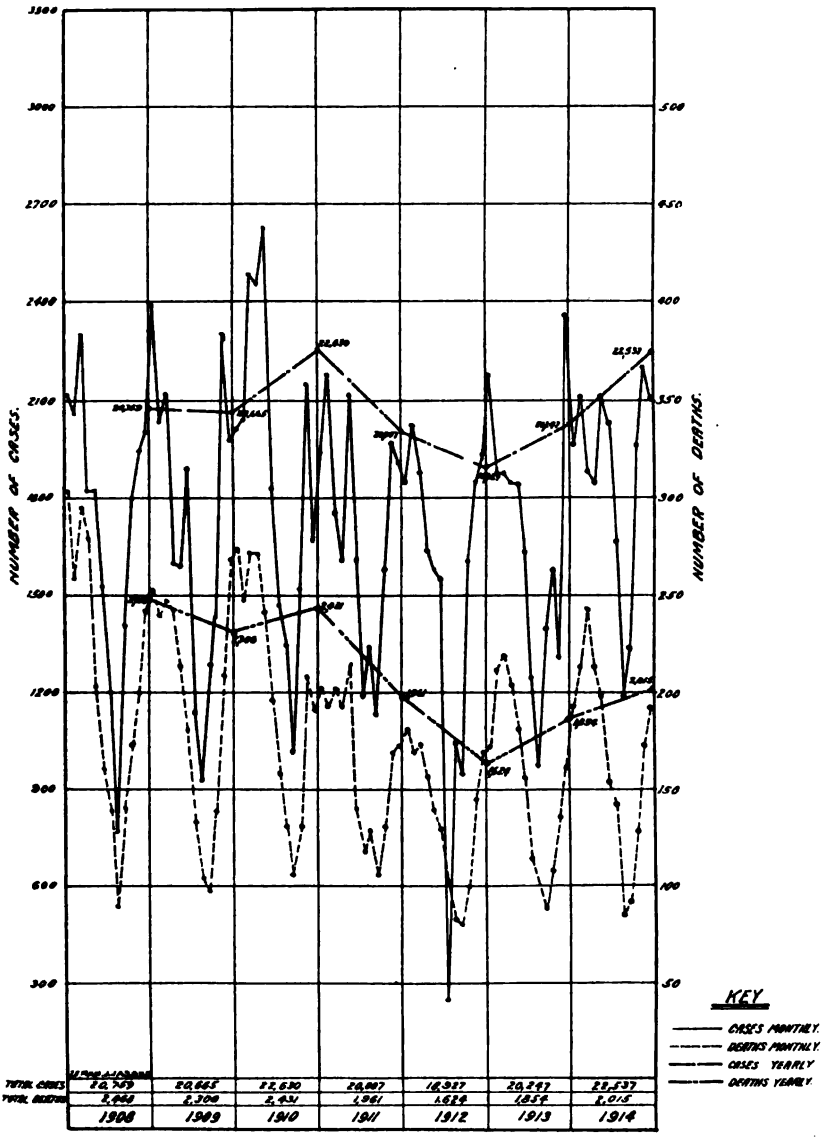


UNIV. OF MIC
Digitized by Google

Digitized by Google

APPENDIX TABLE XI

DIPHTHERIA.
IN NEW YORK STATE.
1908 TO 1914



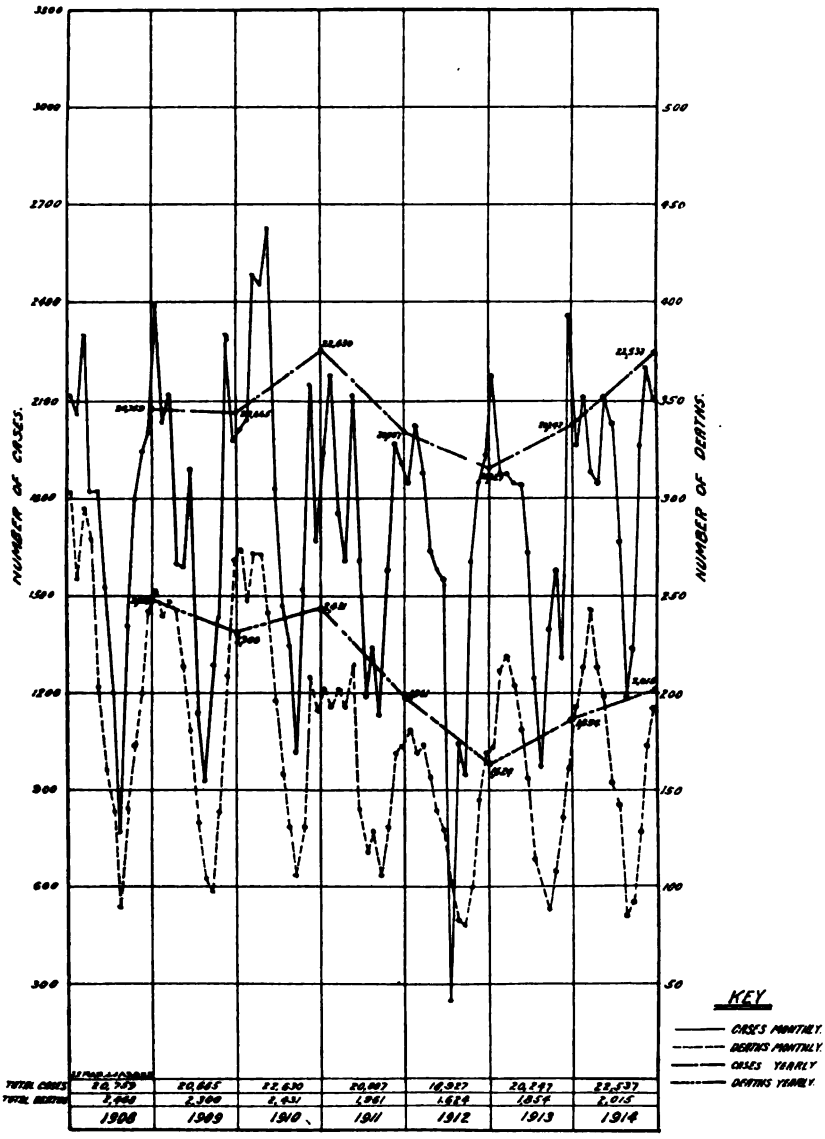
UNIV. OF MICH.

Digitized by Google

Digitized by Google

APPENDIX TABLE XI

DIPHTHERIA.
IN NEW YORK STATE.
1908 TO 1914



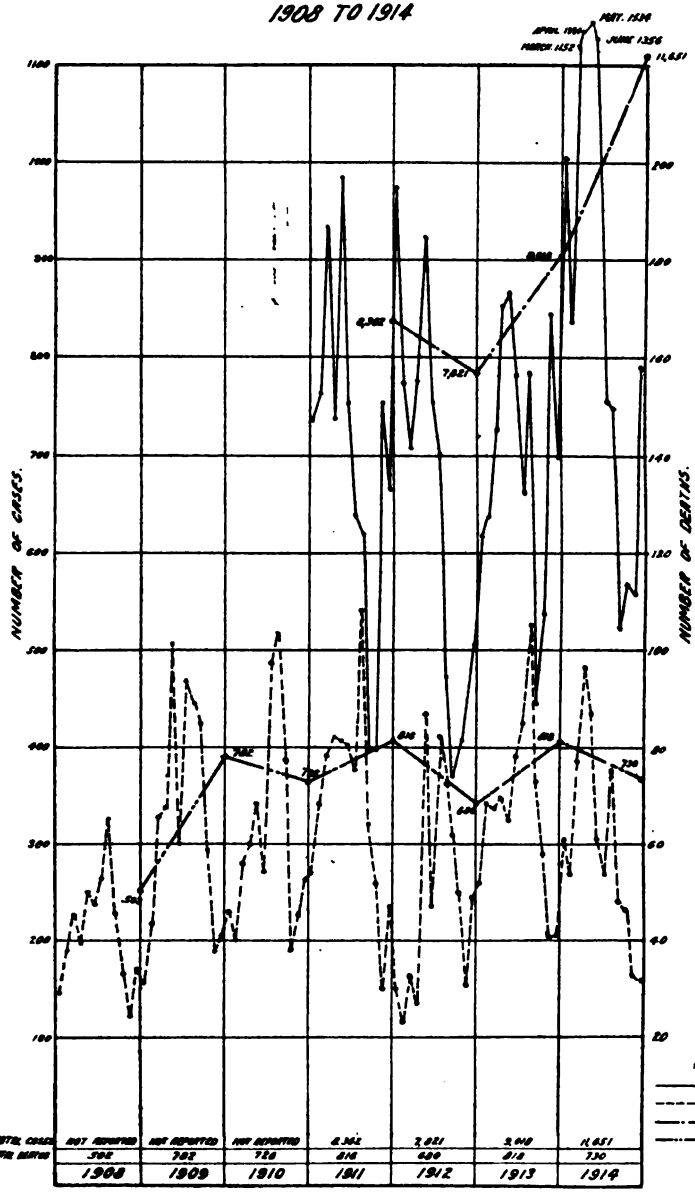
	1908	1909	1910	1911	1912	1913	1914
TOTAL CASES	20,759	20,885	22,630	20,007	16,927	20,247	22,537
TOTAL DEATHS	2,448	2,300	2,431	1,961	1,624	1,854	2,015

UNIV. OF MICH.
Digitized by Google

Digitized by Google

APPENDIX TABLE XII

WHOOPING COUGH IN NEW YORK STATE. 1908 TO 1914

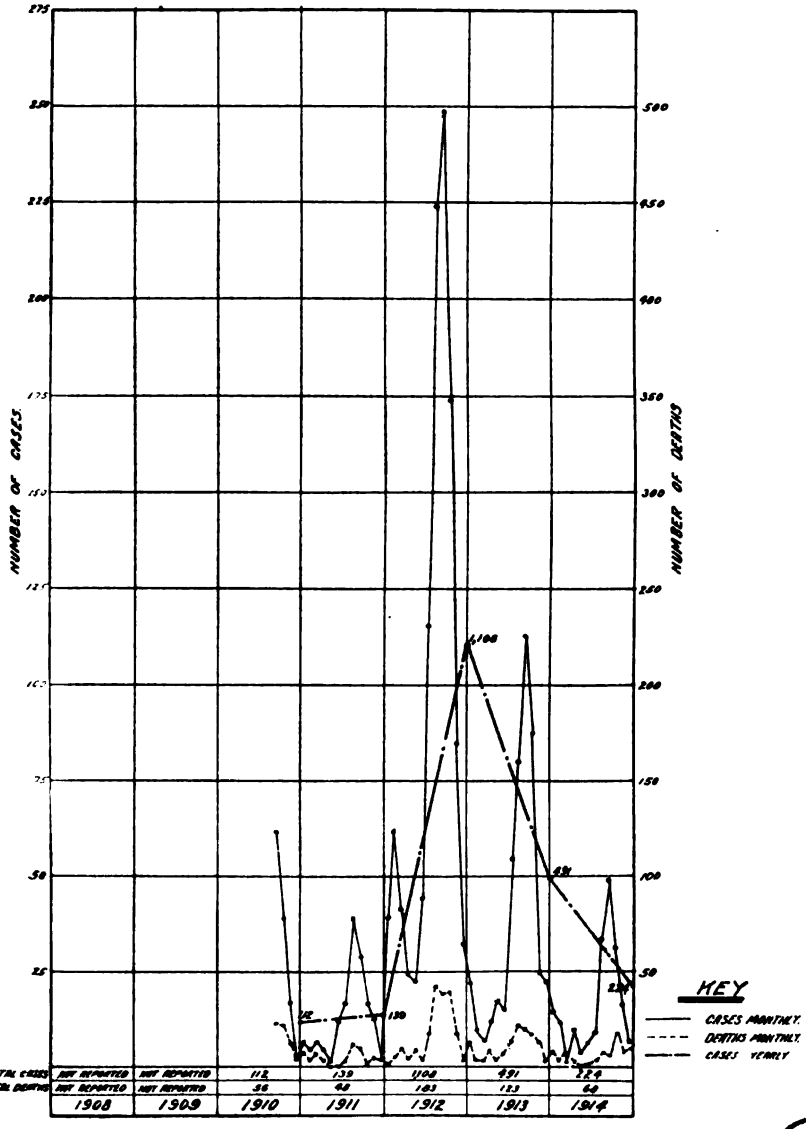


UNIV. OF MICH.
Digitized by Google

Digitized by Google

APPENDIX TABLE XIII

POLIOMYELITIS.
IN NEW YORK STATE.
1908 TO 1914.



	1908	1909	1910	1911	1912	1913	1914
TOTAL CASES	NOT REPORTED	NOT REPORTED	112	139	1108	491	224
TOTAL DEATHS	NOT REPORTED	NOT REPORTED	56	48	183	133	64

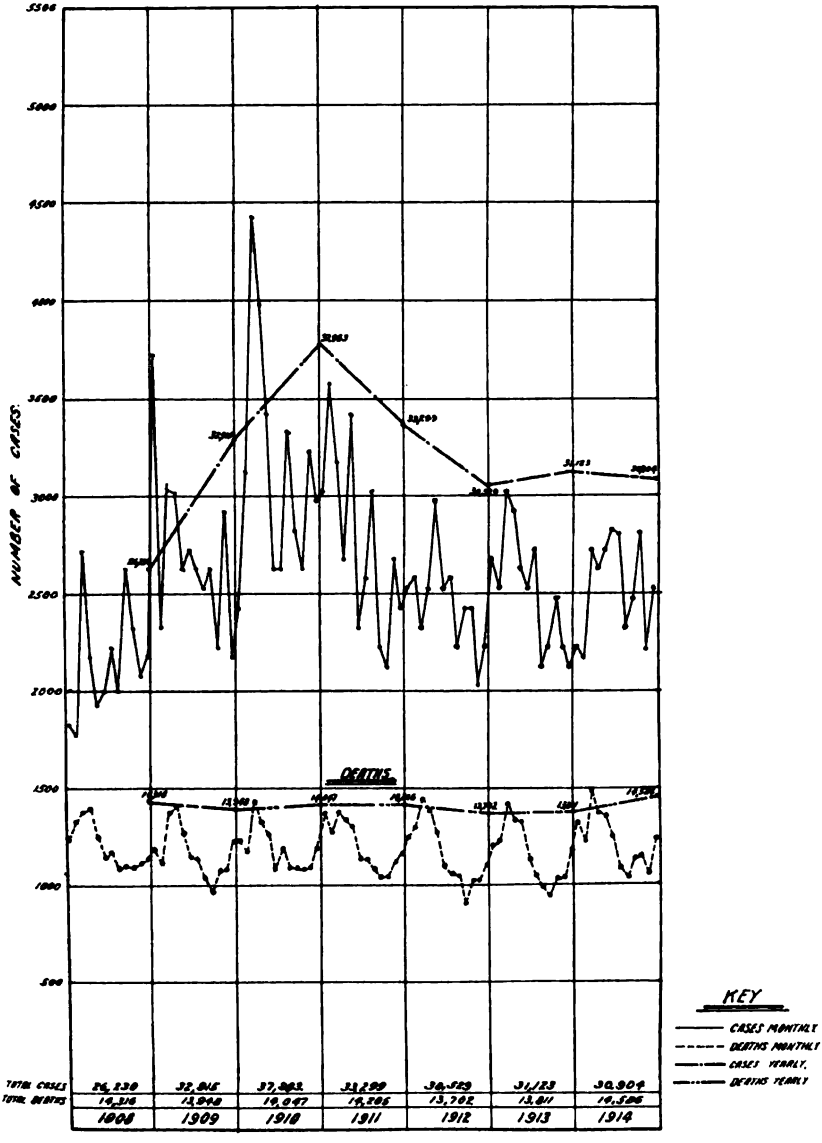
UNIV. OF MICH.

Digitized by Google

Digitized by Google

APPENDIX TABLE XIV

TUBERCULOSIS. IN NEW YORK STATE. 1908 TO 1914



	1908	1909	1910	1911	1912	1913	1914
TOTAL CASES	26,230	32,815	37,863	33,299	30,529	31,123	30,904
TOTAL DEATHS	14,216	13,908	14,047	14,206	13,702	13,011	14,586

Digitized by Google

Digitized by Google

APPENDIX XVI — *Concluded*

Disease	July			August			September			October			November			December			Total		
	New York City	Up State	Total State	New York City	Up State	Total State	New York City	Up State	Total State	New York City	Up State	Total State	New York City	Up State	Total State	New York City	Up State	Total State	New York City	Up State	Total State
[illegible]																					
Anthrax													1		1				1	3	4
Chickenpox	319	117	436	85	67	152	56	181	237	315	405	720	574	851	1,425	1,112	1,340	2,452	9,732	3,800	13,532
Diphtheria	1,396	222	1,618	838	266	1,104	941	417	1,358	1,271	693	1,964	1,364	852	2,216	1,513	598	2,111	17,129	5,408	22,537
Dysentery					7	7		4	4		5	5		3	3		1	1		20	20
Epidemic c. s. meningitis	26	5	31	18	12	30	22	6	28	23	7	30	22	5	27	30	10	40	318	130	448
Epidemic sore throat		4	4		11	11		18	18		20	20		21	21		45	45		357	357
German measles	54	25	79	12	14	26	10	12	22	11	18	29	20	14	34	47	25	72	927	676	1,603
Glanders																				1	1
Measles	1,734	1,139	2,873	534	589	1,123	244	289	533	324	347	671	679	378	1,057	1,024	774	1,798	25,793	22,090	47,883
Mumps	241	59	300	119	40	159	66	47	113	137	119	256	195	233	428	267	398	665	4,449	1,310	5,759
Ophthalmia neonatorum		7	7		4	4		4	4		2	2		1	1		1	1		57	57
Para-typhoid fever					1	1		4	4		1	1		1	1		2	2		9	9
Poliomyelitis	4	8	12	21	12	33	26	27	53	18	13	31	6	12	18	6	1	7	129	95	224
Puerperal septicæmia					2	2								3	3		3	3		9	9
Rabies	1		1	1	1	2		2	2		1	1	1		1				4	10	14
Scarlet fever	477	324	801	244	363	607	239	355	594	390	509	899	602	643	1,245	797	665	1,462	11,105	7,491	18,596
Smallpox	2	1	3		1	1		3	3		5	5		26	26		12	12	24	767	791
Trachoma		3	3					2	2		8	8		1	1		5	5		33	33
Tuberculosis	1,769	818	2,587	1,675	672	2,347	1,772	750	2,522	1,867	1,074	2,941	1,548	711	2,259	1,787	687	2,474	21,604	9,472	31,073
Typhoid fever	200	216	416	303	391	694	470	519	989	337	439	776	170	251	421	159	174	333	2,260	3,221	5,481
Typhus fever				1		1	3		3	5		5	3		3	2		2	17		17
Whooping cough	318	448	766	384	381	765	286	256	542	336	262	598	253	411	664	229	682	911	3,798	7,853	11,651

Digitized by Google

APPENDIX XVII

TABLE SHOWING NUMBER OF REPORTED CASES, DEATHS, CASE FATALITY RATE, AND CASE RATE PER 100,000 PEOPLE

COUNTIES	Typhoid Fever				Diphtheria				Scarlet Fever				Measles				Whooping Cough			
	Cases	Deaths	Case rate	Case fatality rate	Cases	Deaths	Case rate	Case fatality rate	Cases	Deaths	Case rate	Case fatality rate	Cases	Deaths	Case rate	Case fatality rate	Cases	Deaths	Case rate	Case fatality rate
Albany	156	29	87.36	.18	238	27	133.28	.113	473	10	264.88	.021	229	9	123.84	.037	119	31	66.64	.262
Allegany	36	7	86.76	.19	13	.....	31.33	....	25	.....	60.25	....	148	.....	356.68	....	122	1	294.02	.0081
Broome	38	10	46.36	.26	161	12	196.42	.074	197	5	240.34	.025	1,543	19	1,882.46	.012	175	6	213.5	.034
Cattaraugus	47	4	70.97	.085	16	3	24.16	.187	89	2	134.39	.022	257	4	388.07	.015	80	7	120.8	.0875
Cayuga	47	9	69.56	.19	57	6	84.36	.105	261	2	386.28	.0076	613	4	907.24	.006	74	1	109.52	.013
Chautauqua	197	15	177.3	.076	52	10	46.8	.192	203	4	182.7	.019	214	6	192.6	.028	425	12	382.5	.028
Chemung	51	6	92.82	.11	140	6	254.8	.042	58	.....	105.56	....	262	2	476.66	.007	10	1	18.2	.1
Chenango	26	3	73.58	.11	33	1	93.39	.030	33	.....	93.39	....	103	.....	291.49	....	88	.....	249.04	.....
Clinton	14	3	23.84	.21	33	4	67.98	.121	94	1	193.64	.010	35	1	72.1	.028	24	3	49.44	.125
Columbia	68	7	155.04	.10	54	6	123.12	.111	57	7	129.96	.122	91	1	207.48	.0109	44	2	100.32	.045
Cortland	34	3	113.9	.088	37	2	123.95	.054	81	2	271.35	.024	125	.....	418.75	....	150	2	502.5	.013
Delaware	40	6	88.	.15	18	1	39.6	.055	44	.....	96.8	....	699	13	1,537.8	.018	153	1	336.6	.0065
Dutchess	67	5	74.37	.074	51	5	56.6	.098	168	8	186.48	.047	855	17	949.05	.019	27	1	29.97	.037
Erie	481	82	81.77	.17	292	71	156.57	.077	800	27	136.	.033	881	14	149.77	.015	2,872	108	488.24	.035
Essex	15	3	45.3	.2	36	6	108.72	.166	26	.....	78.52	....	37	.....	111.74	....	26	.....	78.52	.....
Franklin	31	5	64.48	.16	72	2	149.76	.027	71	4	147.68	.056	191	.....	397.28	....	14	17	29.12	1.21
Fulton	15	6	33.15	.4	35	6	77.35	.171	19	2	41.99	.105	138	.....	304.98	....	15	2	33.15	.133
Genesee	38	3	98.42	.078	10	.....	25.9	....	47	3	121.73	.063	149	1	385.91	.006	24	1	62.16	.041
Greene	28	4	127.3	.10	30	5	100.5	.166	9	.....	30.15	....	94	.....	314.9	....	66	4	221.1	.060
Hamilton	2	1	47.74	.5	....	.....	.....	....	12	.....	286.44	....	59	.....	1,408.33	....	4	.....	95.48	.....
Herkimer	19	6	32.66	.31	133	11	228.76	.082	384	15	660.48	.039	539	11	927.08	.0204	125	8	215.	.064
Jefferson	86	6	104.92	.069	75	9	91.5	.12	48	.....	58.56	....	235	1	286.7	.004	91	10	111.02	.109
Lewis	34	6	141.44	.17	13	2	54.08	.153	29	.....	120.64	....	287	1	1,193.92	.003	18	2	74.88	.111
Livingston	13	16	33.8	1.2	23	3	59.8	.153	67	3	174.2	.044	49	2	127.4	.0408	43	1	111.	.023
Madison	19	7	48.83	.36	11	1	28.27	.090	32	.....	82.24	....	378	6	971.46	.015	69	3	173.33	.044
Monroe	147	29	47.04	.19	386	33	123.5	.085	635	29	203.2	.045	2,110	15	675.2	.007	150	9	48.	.06
Montgomery	31	9	50.84	.29	66	7	108.2	.106	101	3	165.64	.029	70	.....	114.8	....	20	1	32.8	.05
Nassau	14	2	14.98	.14	160	14	171.2	.087	200	2	214.	.01	398	6	425.86	.015	66	11	70.62	.166
Niagara	160	16	172.38	.094	162	19	165.2	.117	111	2	113.22	.018	139	3	141.78	.021	165	13	168.3	.078
Oneida	46	11	28.52	.23	147	34	91 14	.341	78	6	110.36	.033	583	34	361.46	.058	114	14	70.68	.122

Digitized by Google

APPENDIX XVII — *Concluded*

COUNTIES	Typhoid Fever				Diphtheria				Scarlet Fever				Measles				Whooping Cough			
	Cases	Deaths	Case rate	Case fatality rate	Cases	Deaths	Case rate	Case fatality rate	Cases	Deaths	Case rate	Case fatality rate	Cases	Deaths	Case rate	Case fatality rate	Cases	Deaths	Case rate	Case fatality rate
Onondaga	68	21	31.96	.30	300	22	141.	.076	373	14	175.31	.037	1,732	5	814.04	.002	212	30	99.64	.145
Ontario	30	5	56.4	.16	30	6	56.4	.2	72	9	135.36	.125	60	.....	112.80	....	37	3	69.56	.081
Orange	114	20	94 62	.17	141	15	117.03	1.06	93	3	76.36	.032	1,145	14	940.35	.012	62	12	51.46	.193
Orleans	11	3	33.66	.27	22	4	67.32	.181	14	1	42.84	.071	42	1	128.52	.023	15	.....	45.9	.....
Oswego	75	11	104.25	.14	51	.....	70.89	....	32	.....	44.48	....	214	4	297.46	.018	16	17	22.24	1.06
Otsego	38	5	81.32	.13	26	1	55.64	.038	52	2	111.28	.038	714	5	1,527.96	.007	27	.....	57.78	.....
Putnam	5	.....	33.4	....	10	1	66.8	.1	14	.....	93.52	....	28	.....	187.04	....	10	3	66.8	.30
Rensselaer	68	32	55.08	.47	264	22	213.84	.106	241	5	195.21	.020	510	7	413.1	.013	175	20	141.75	.114
Rockland	18	6	36.18	.33	86	7	172.86	.081	70	.....	140.7	....	57	1	114.57	.017	80	3	160.8	.037
St. Lawrence	77	15	86.24	.19	167	6	187.04	.035	68	7	76.16	.102	34	5	38.08	.147	173	13	193.76	.075
Saratoga	92	11	147.2	.11	37	9	59.2	.243	191	13	305.6	.068	37	2	59.2	.054	132	5	211.2	.037
Schenectady	64	10	62.72	.15	150	17	147.	.113	272	15	266.56	.055	525	3	514.5	.005	225	21	220.5	.093
Schoharie	26	2	113.62	.076	3	.....	13.11	....	28	1	122.36	.035	176	.....	769.12	....	8	.....	34.96	.....
Schuyler	18	.....	134.1	....	1	.....	7.45	....	0	0	0	0	26	1	193.7	.038	6	.....	44.7	.....
Seneca	52	5	195.	.096	13	2	48.75	.153	20	.....	75.	....	240	.....	900.	....	51	3	191.25	.058
Steuben	95	13	113.05	.13	69	7	82.11	.101	23	1	27.37	.043	360	4	428.4	.011	148	5	176.12	.033
Suffolk	30	3	29.1	.1	82	9	79.54	.109	124	3	120.28	.024	297	1	288.09	.003	104	3	100.88	.028
Sullivan	13	5	37.83	.38	35	2	101.85	.057	60	1	174.6	.016	194	3	564.54	.015	28	.....	81.48	.....
Tioga	22	5	88.44	.22	15	1	60.3	.066	52	1	209.4	.019	74	.....	297.48	....	6	.....	24.12	.....
Tompkins	50	6	148.50	.12	17	1	50.49	.058	11	.....	32.67	....	28	.....	83.16	....	14	.....	41 58	.....
Ulster	53	14	56.71	.26	63	9	67.41	.142	241	7	257.87	.029	1,108	10	1,185.56	.009	99	.....	105 93	.....
Warren	13	8	39.39	.61	19	1	57.57	.052	16	.....	48.48	....	85	.....	257.55	....	25	2	75.75	.08
Washington	34	4	70.04	.11	30	4	61.8	.133	61	.....	125.66	....	6	.....	12.36	....	51	3	105.06	.057
Wayne	25	5	49.25	.2	41	6	80.77	.146	28	.....	55.16	....	206	1	405.82	.004	35	3	68.95	.085
Westchester	95	16	29.45	.16	531	57	164.61	.107	706	14	218.86	.019	2,617	43	811.27	.016	621	32	192.51	.051
Wyoming	5	.....	15.45	....	17	1	52.53	.058	48	1	148.32	.020	26	.....	80.34	....	70	.....	216.3	.....
Yates	11	.....	60.72	....	5	.....	27.6	....	30	.....	165.6	....	27	.....	149.04	....	50	1	276.0	.02

Digitized by Google

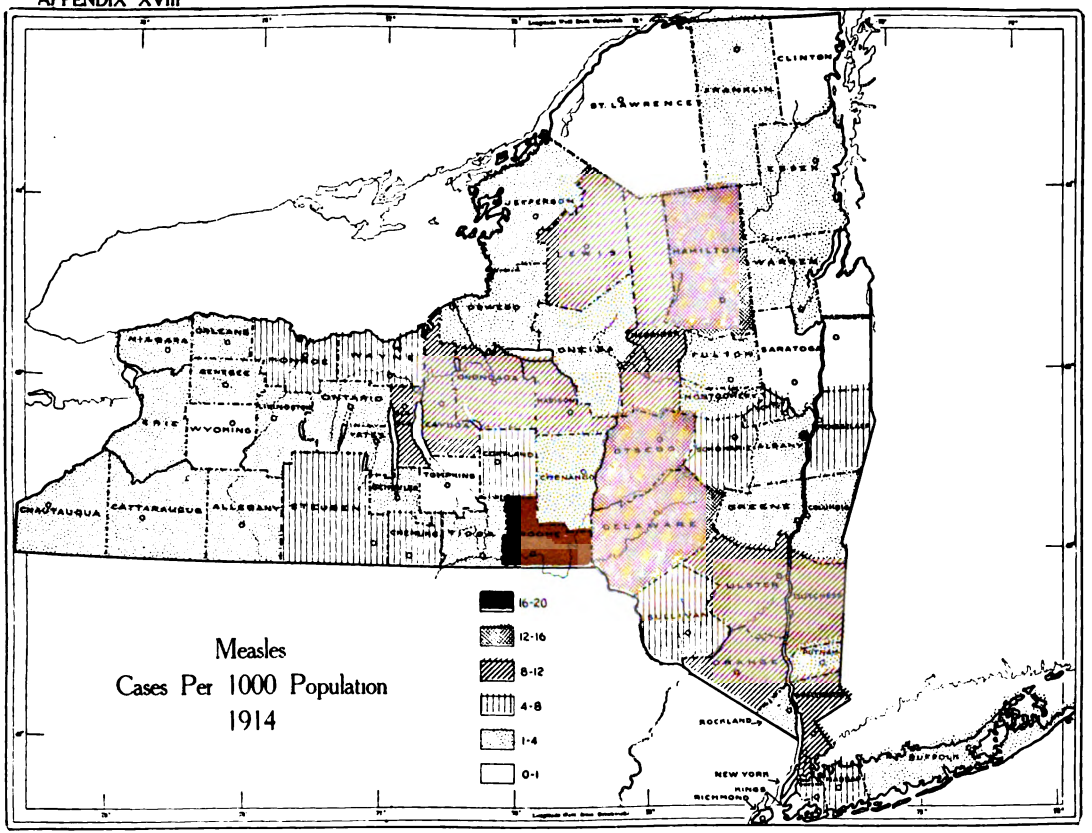
APPENDIX XXVIII

CASES OF TYPHOID FEVER REPORTED IN CITIES OF NEW YORK STATE FROM JANUARY 1, 1908, TO DECEMBER 31, 1914

Cities	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
ALBANY												
1908	9	....	7	....	....	5	7	....	....	1	3	10
1909	6	10	7	1	1	1	1	9	12	15	12	7
1910	10	4	5	3	3	1	2	4	13	9	3	6
1911	3	7	5	5	2	2	2	13	33	8	4	14
1912	5	7	7	5	3	....	12	10	7	10	1	3
1913	7	2	2	156	76	5	5	7	8	3	3	4
1914	2	10	10	8	1	5	4	8	5	1	8	5
COHOES												
1908	11	4	13	4	4	1	3	3	7	....	....	1
1909	15	11	10	12	8	5	2	8	1	6	1	1
1910	5	3	24	14	8	4	2	3	4	1	3	37
1911	42	24	24	14	25	2	1	2	1	1	3	1
1912	6	11	34	16	2	4	4	16	3	4	1	4
1913	....	2	3	....	2	1	4	1	3	3	....	1
1914	....	1	5	3	1	1	....	....	....	1	....	1
WATERVLIET												
1908	....	3	7	1	....	6	3	4	1	10	3	3
1909	....	1	5	1	3	1	....	2	5	....	1	....
1910	2	2	2	2	5	3	2	5	8	3	....	6
1911	7	4	3	3	8	6	8	8	4	12	2	2
1912	2	5	12	8	4	3	1	1	....	2	10	3
1913	8	....	....	7	9	5	15	2	7	....	....	6
1914	7	....	3	3	17	2	3	4	5	2	4	1
BINGHAMTON												
1908	2	1	....	....	1	....	2	4	10	2	8	1
1909	5	3	6	2	1	....	....	2	11	7	3	3
1910	1	....	13	11	....	1	3	4	6	6	4	4
1911	....	1	2	....	2	1	1	1	1	3	1	3
1912	2	3	1	7	10	1	1	4	4	16	10	5
1913	6	3	3	7	2	2	4	6	3	7	2	4
1914	1	4	2	3	1	....	....	1	2	4	....	2
OLEAN												
1908	2	1	....	....	....	1	2	2	1	1	....	....
1909	1	....	1	1	....	2	....	2	....	2	....	1
1910	....	2	1	....	1	....	....	1	3	2	3	....
1911	1	1	1	....	1	....	....	....	3	....	....	....
1912	....	4	....	2	3	....	1	2	....	2	2	2
1913	1	....	....	1	....	....	....	1	6	4	1	....
1914	....	....	....	....	....	....	....	2	2	5	3	1
AUBURN												
1908	....	....	3	11	23	4	7	7	6	4	2	3
1909	10	1	2	1	....	....	1	....	4	7	7	3
1910	3	1	2	1	....	....	1	....	6	2	2	3
1911	1	2	....	....	....	....	....	1	....	5	....	1
1912	1	1	....	....	....	1	....	3	1	3	1	....
1913	....	2	....	....	....	1	1	1	4	3	4	....
1914	2	....	2	....	....	....	2	4	1	3	2	2
DUNKIRK												
1908	1	2	....	....	....	....	....	4	4	11	2	....
1909	....	....	2	....	1	....	1	2	4	2	2	....
1910	....	1	....	....	3	....	1	4	1	3	9	6
1911	4	4	8	4	4	1	....	1	....	2	3	6
1912	6	2	3	2	4	4	4	2	2	5	1	5
1913	2	7	2	5	6	2	3	5	2	2	2	5
1914	8	5	26	54	50	17	1	1	....	1	....	....

Digitized by Google

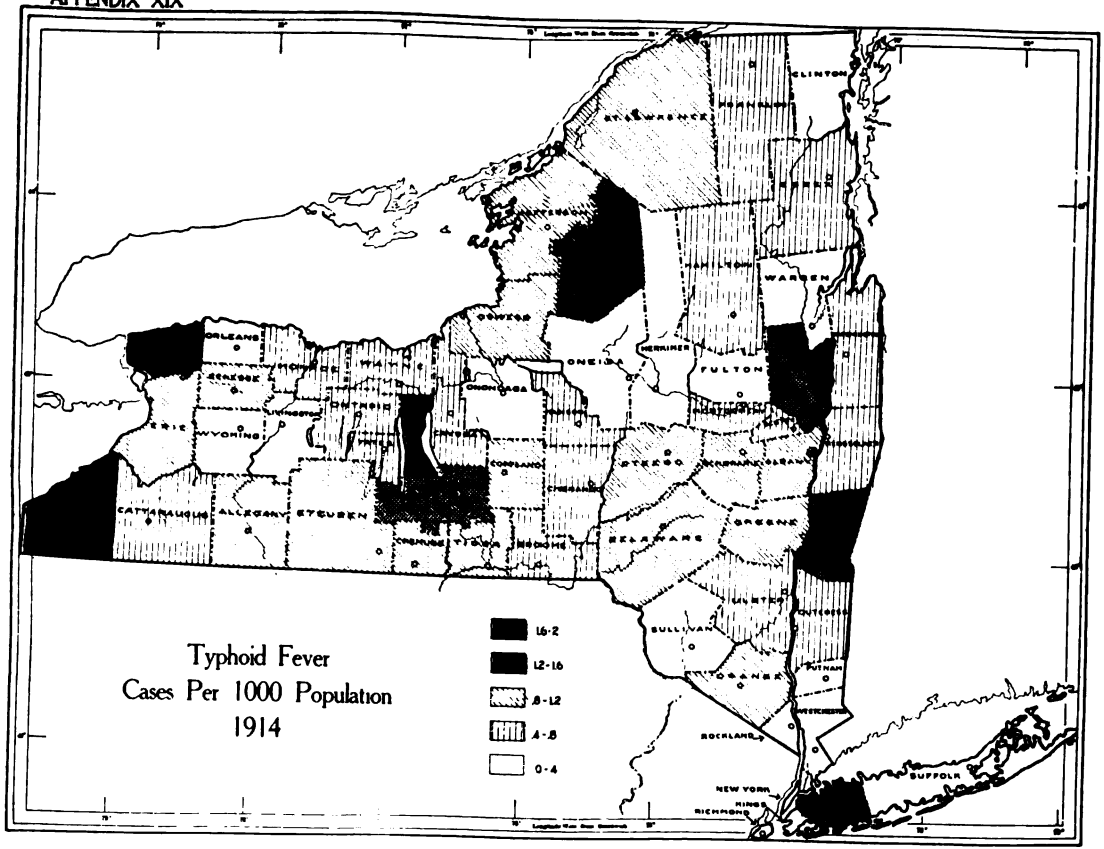
APPENDIX XVIII



Digitized by Google

Digitized by Google

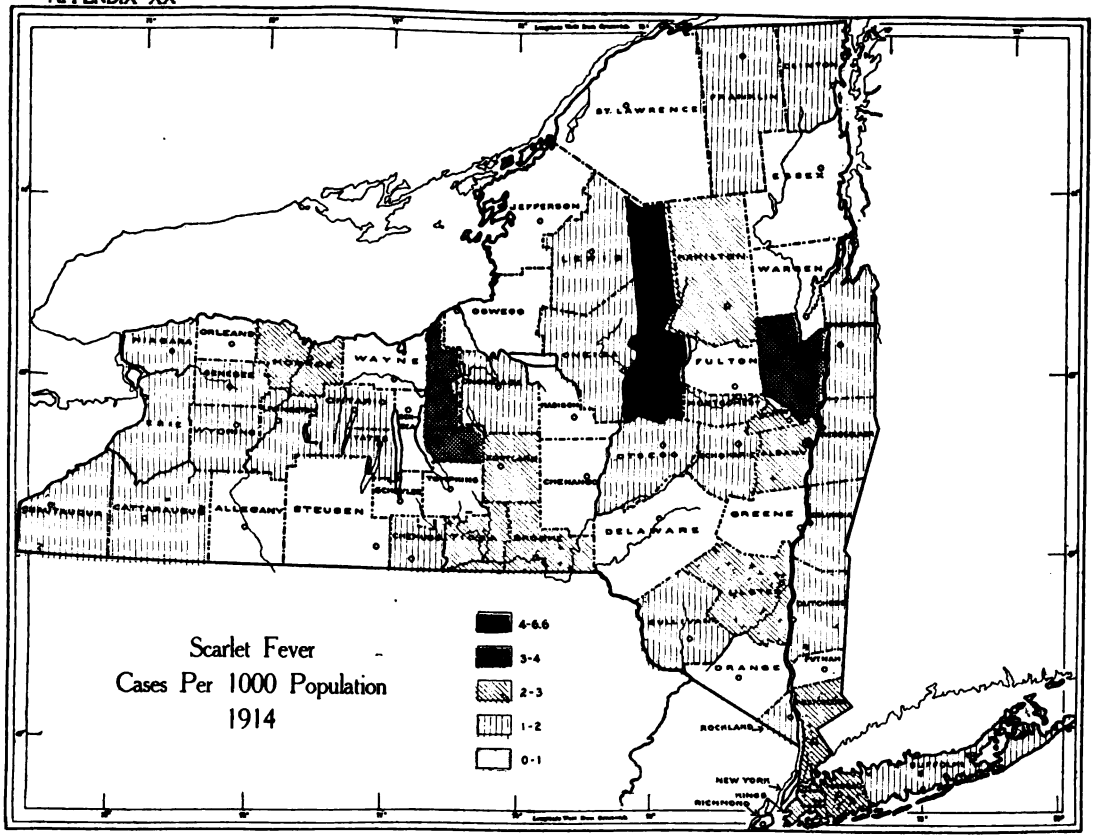
APPENDIX XIX



Digitized by Google
UNIV. OF MICH.

Digitized by Google

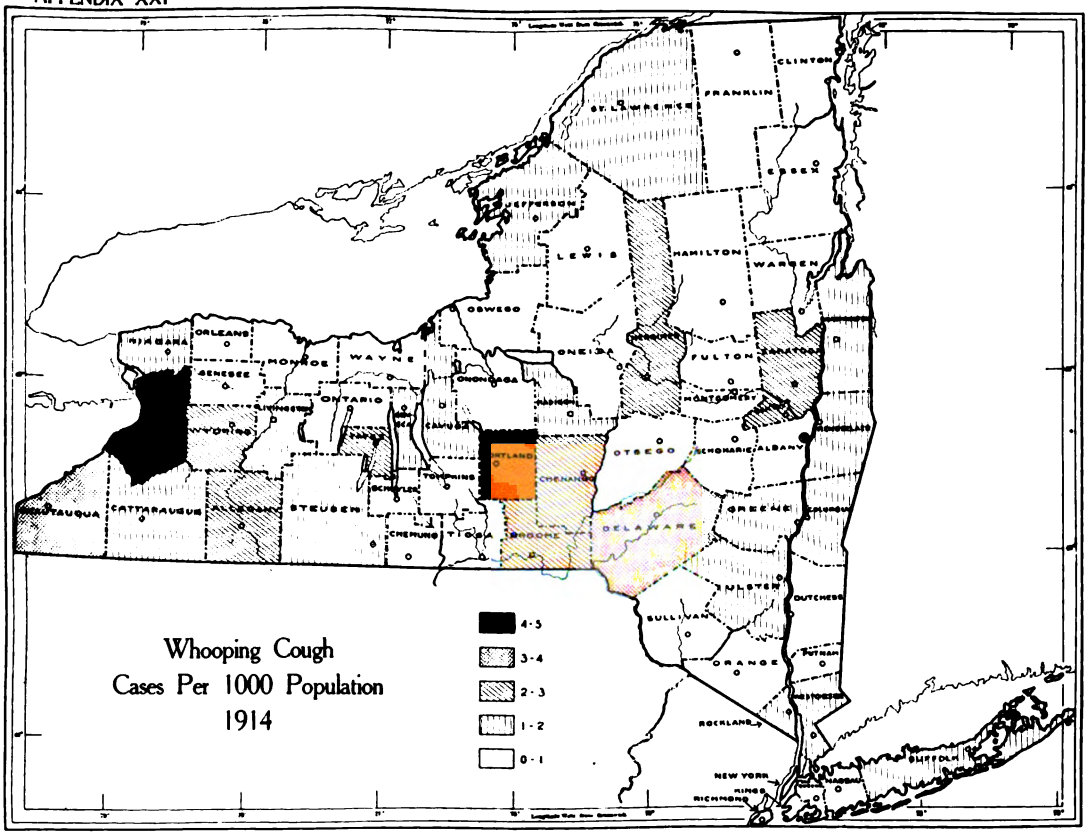
APPENDIX XX



Digitized by Google

Digitized by Google

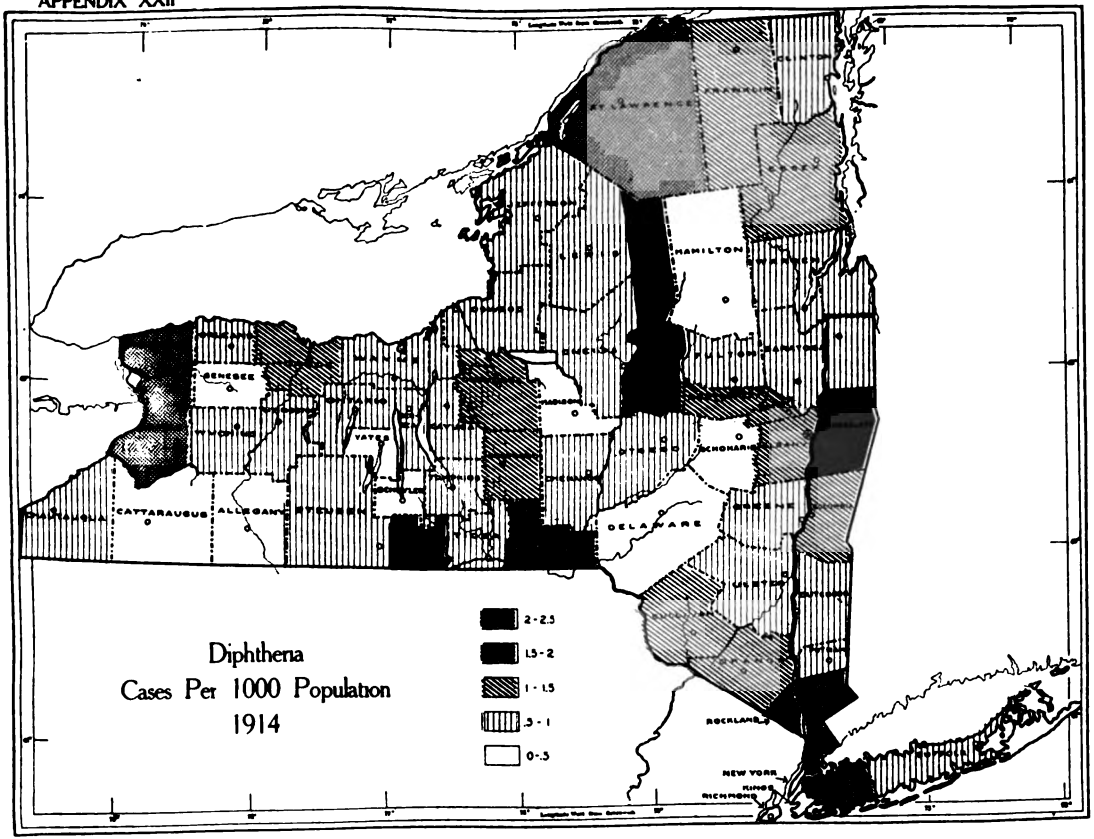
APPENDIX XXI



Digitized by Google

Digitized by Google

APPENDIX XXII

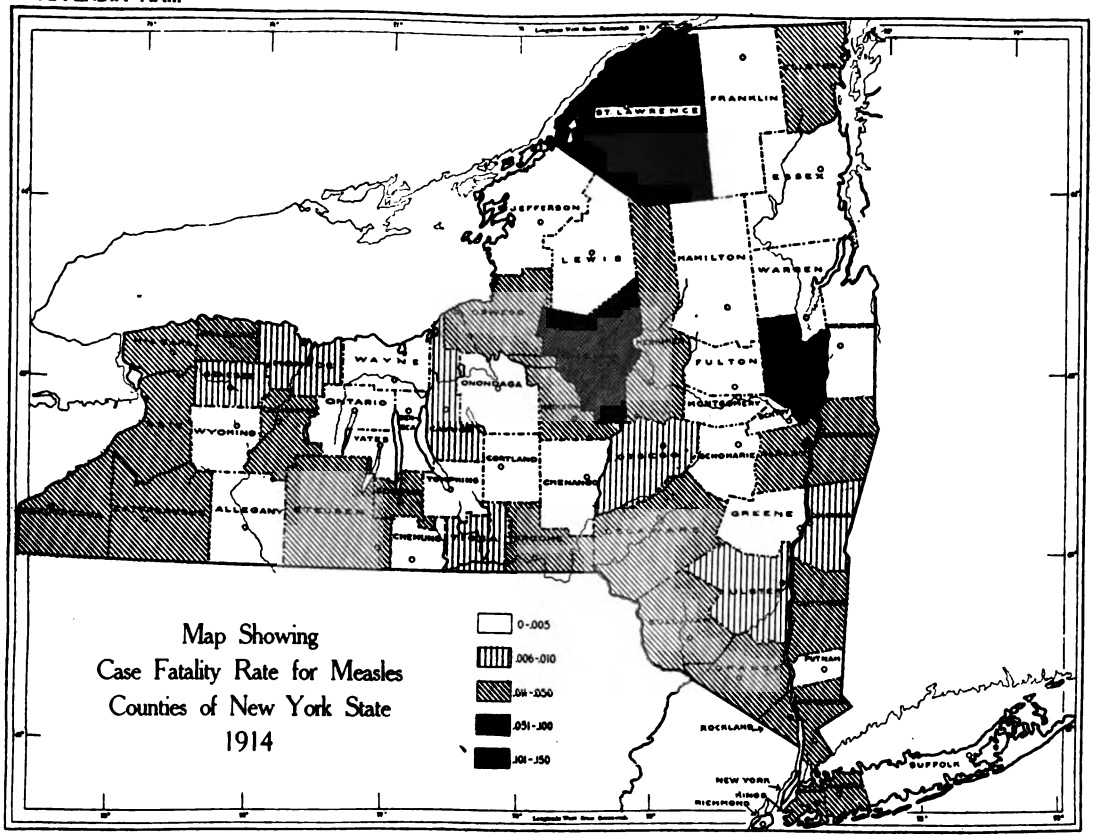


Digitized by Google

UNIV. OF MICH.

Digitized by Google

APPENDIX XXIII

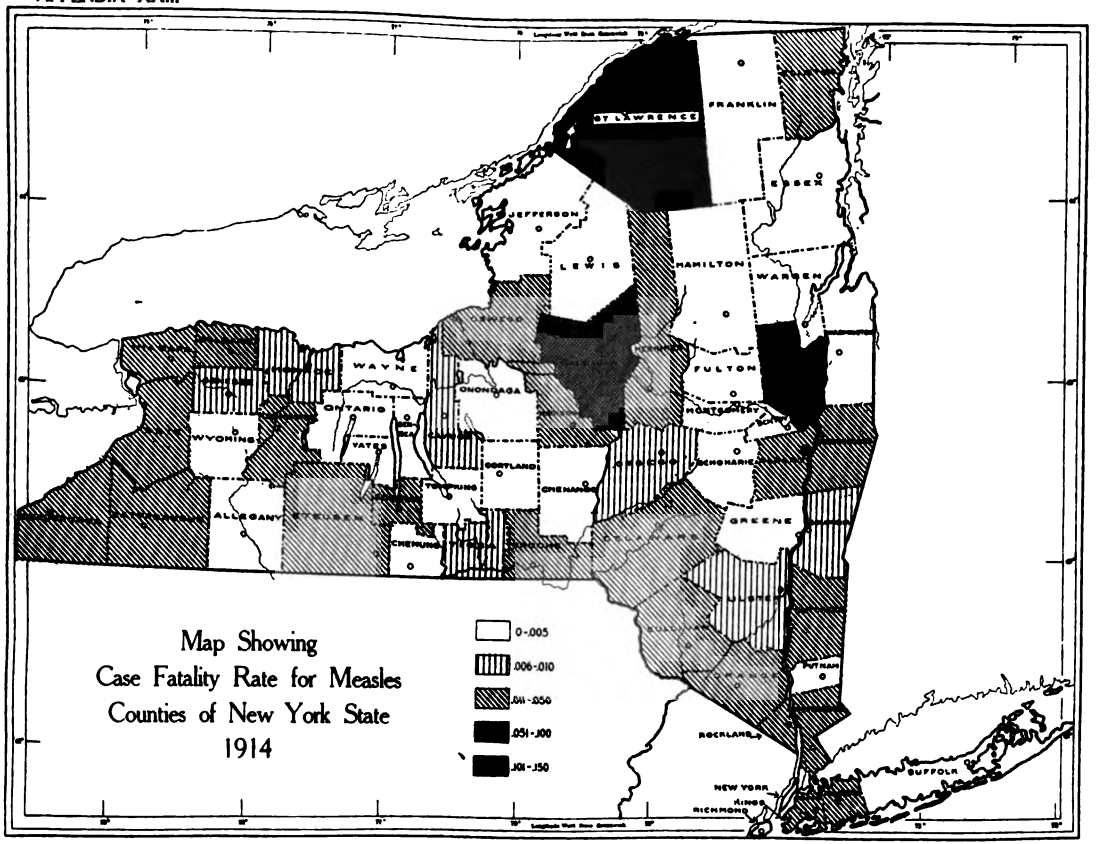


Digitized by Google

UNIV. OF MICH.

Digitized by Google

APPENDIX XXIII

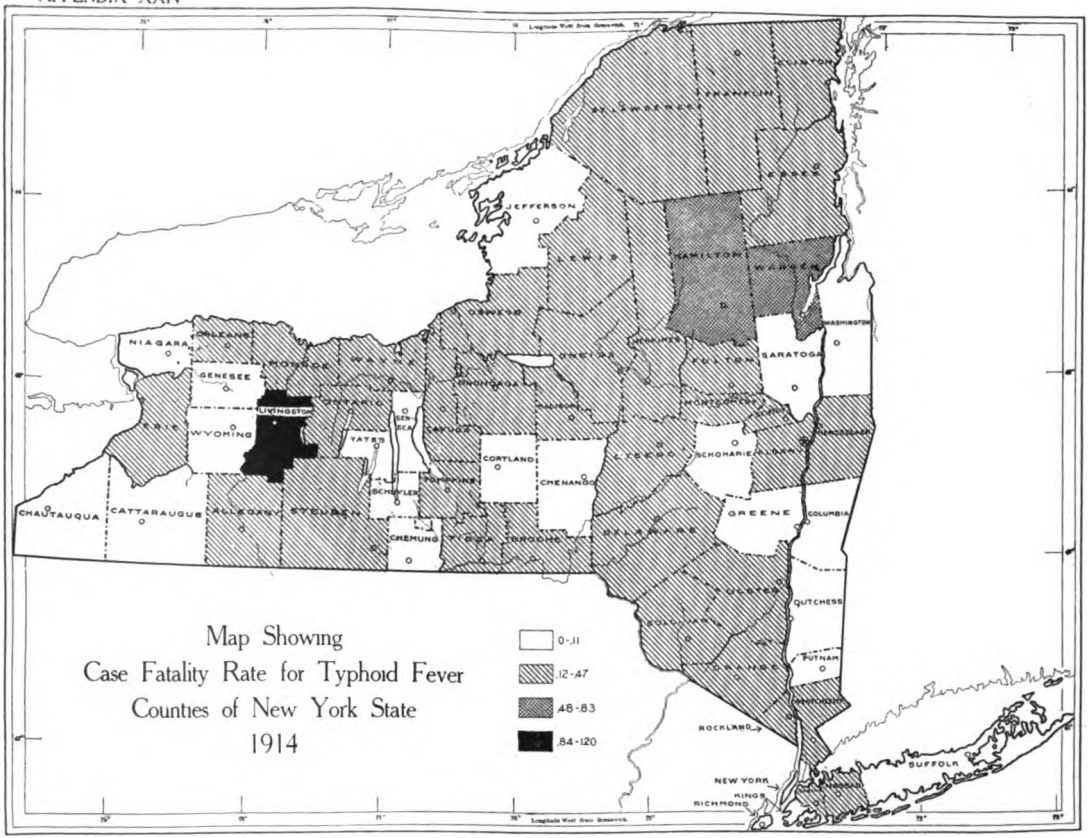


Digitized by Google

UNIV. OF MICH.

Digitized by Google

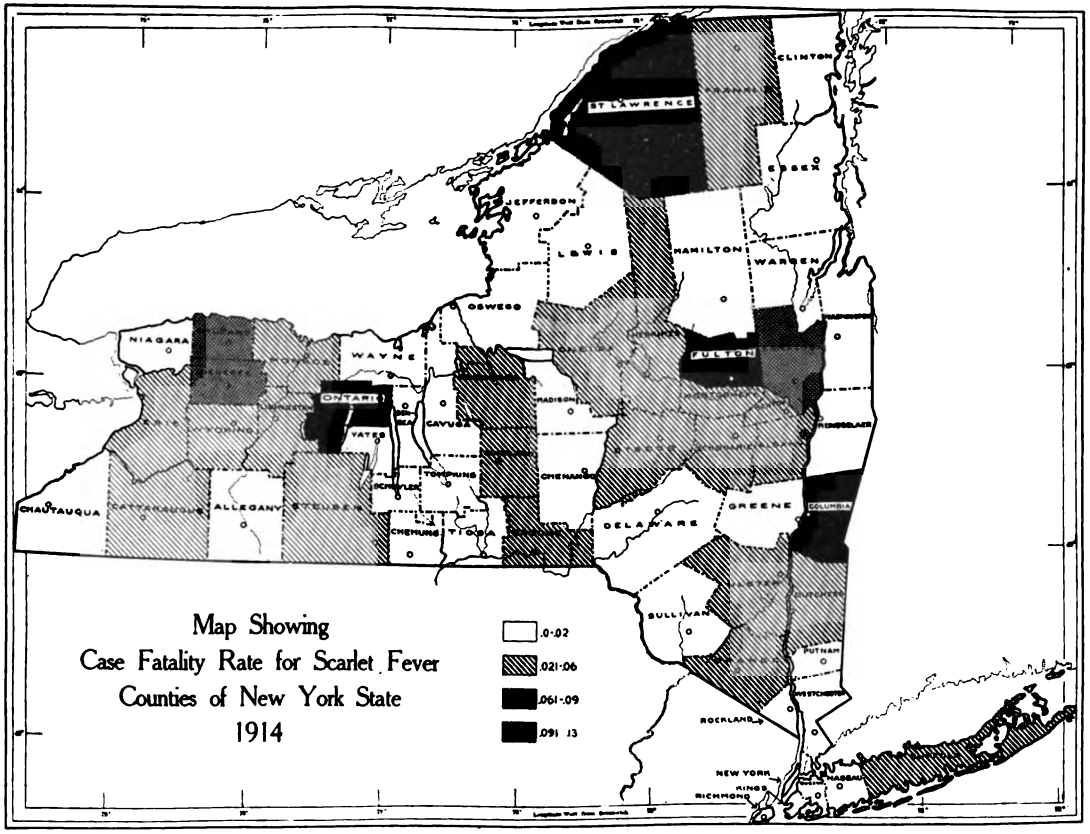
APPENDIX XXIV



Digitized by Google

Digitized by Google

APPENDIX XXV

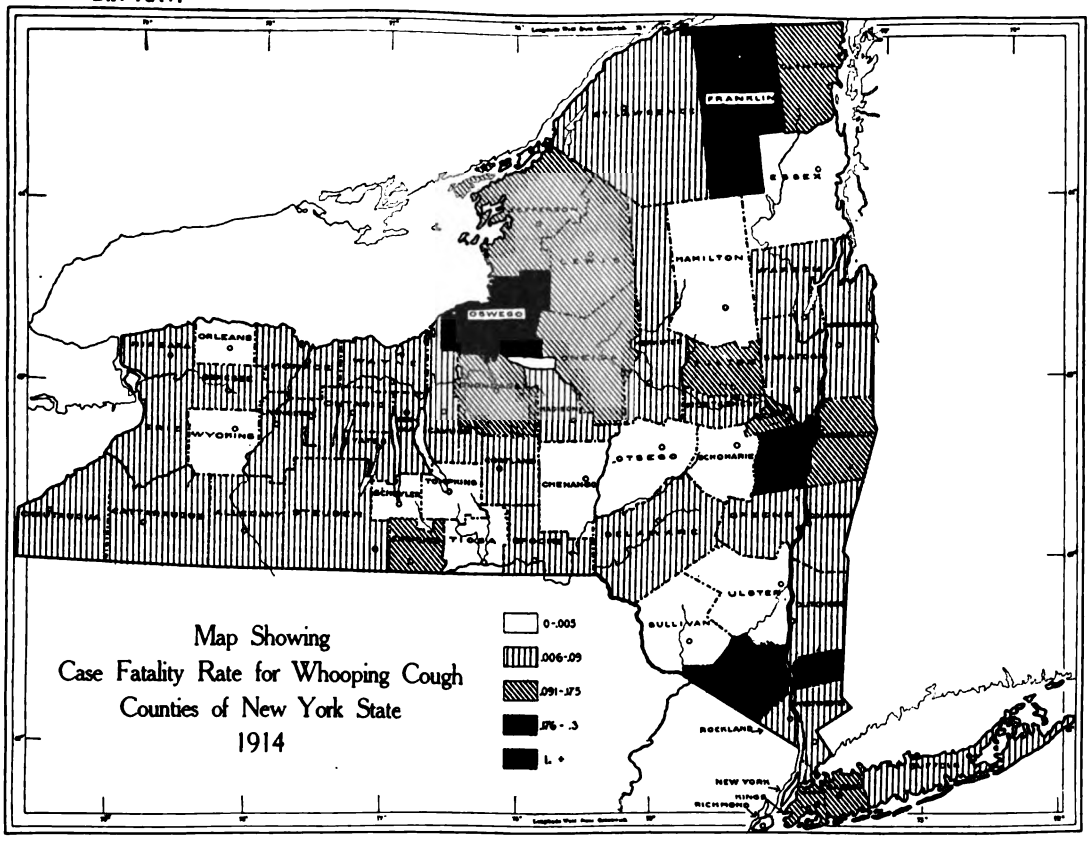


Digitized by Google

UNIV. OF MICH.

Digitized by Google

APPENDIX XXVI



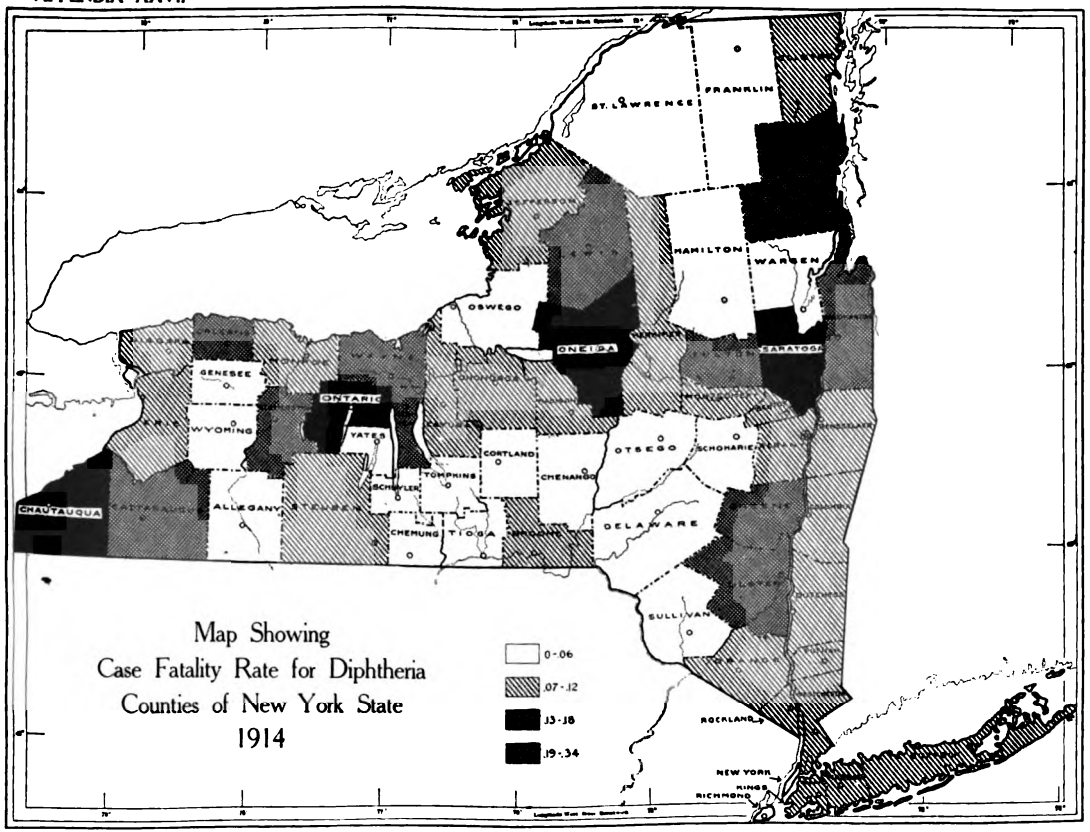
Map Showing
Case Fatality Rate for Whooping Cough
Counties of New York State
1914

Digitized by Google

UNIV. OF MICH.

Digitized by Google

APPENDIX XXVII



Digitized by Google

UNIV. OF MICH.

Digitized by Google

APPENDIX XXVIII — *Continued*

Cities	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
JAMESTOWN												
1908	2	2	....	....	2	2	2	1	3	3	3	2
1909	3	2	....	1	....	....	....	3	14	3	....	1
1910	1	....	1	1	2	....	2	3	14	9	85	10
1911	5	1	1	2	3	2	2	2	2	4	3	1
1912	....	....	3	2	....	1	2	2	5	3	2	2
1913	....	1	....	1	1	....	4	1	3	1	....	2
1914	1	....	....	....	1	....	3	3	....	3	3	1
ELMIRA												
1908	4	7	6	8	4	11	29	13	6	8	10	2
1909	2	3	2	5	6	2	2	7	33	12	10	3
1910	8	1	1	2	2	....	....	10	14	6	5	2
1911	....	4	1	2	2	6	3	5	8	9	3	....
1912	2	2	....	3	6	....	8	3	10	19	1	1
1913	....	8	3	1	1	3	1	2	6	14	5	4
1914	2	7	3	1	2	3	1	4	13	2	4	1
PLATTSBURG												
1908	....	1	....	....	....	....	....	....	2	1	1	1
1909	....	....	....	....	....	....	....	....	9	2	1	1
1910	1	....	1	1	....	....	2	2	....	2	1	....
1911	....	....	....	....	....	....	....	....	1	1	....	....
1912	....	....	....	....	....	....	1	1	....	4	....	....
1913	....	....	1	....	....	....	2	1	4	13	1	....
1914	....	....	....	....	....	....	....	....	....	....	....	....
HUDSON												
1908	....	5	1	....	....	1	2	1	1	....	....	....
1909	....	2	1	....	1	....	1	1	3	....	....	1
1910	1	3	3	2	....	....	2	4	6	1	2	1
1911	....	....	3	1	....	1	....	....	8	8	....	1
1912	1	....	....	3	....	2	2	....	2	....	....	1
1913	1	....	1	....	1	....	3	7	14	1	....	1
1914	....	....	....	....	....	3	....	7	21	13	1	....
CORTLAND												
1908	....	....	....	....	....	....	....	....	5	3	....	2
1909	....	....	....	....	....	....	....	1	3	1	....	....
1910	....	....	....	....	....	....	....	5	3	2	....	....
1911	....	....	....	1	....	....	1	7	3	1	1	1
1912	....	2	2	1	2	....	....	2	1	1	....	....
1913	....	1	1	1	....	1	....	2	3	7	....	1
1914	1	....	....	....	....	....	4	1	5	4	....	....
POUGHKEEPSIE												
1908	2	7	9	2	2	....	1	3	2	5	2	....
1909	1	10	4	2	4	....	2	....	5	1	5	1
1910	....	1	....	....	2	3	4	15	4	4	2	2
1911	6	5	1	5	2	1	1	6	2	3	3	1
1912	4	1	2	2	....	3	3	2	3	2	4	....
1913	2	1	1	....	....	....	....	5	....	....	6	2
1914	1	....	5	2	....	....	....	....	5	1	....	1
BUFFALO												
1908	20	13	25	18	17	30	51	44	79	66	59	33
1909	30	23	16	11	28	19	50	67	93	33	41	37
1910	31	36	20	27	27	13	22	35	66	55	43	41
1911	33	56	64	33	33	28	42	73	71	47	31	35
1912	26	16	10	20	58	20	22	55	36	29	27	17
1913	27	17	7	18	17	17	25	29	53	36	24	32
1914	35	19	31	21	15	24	6	36	88	44	32	33
LACKAWANNA												
1908	....	....	....	....	....	....	....	....	....	....	....	....
1909	....	....	....	....	....	....	1	4	14	6	3	5
1910	1	....	1	....	....	....	....	1	3	5	2	1
1911	1	1	4	....	1	....	....	....	1	3	1	3
1912	2	....	1	2	....	3	3	....	4	2	5	3
1913	2	1	....	....	1	2	1	1	1	....	3	1
1914	....	1	1	1	....	....	8	1	1	1	....	....

Digitized by Google

Digitized by Google

APPENDIX XXVIII — *Continued*

Cities	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Jamestown												
1908	2	2	....	....	2	2	2	1	3	3	3	2
1909	3	2	....	1	....	....	....	3	14	3	....	1
1910	1	....	1	1	2	....	2	3	14	9	85	10
1911	5	1	1	2	3	2	2	2	2	4	3	1
1912	....	....	3	2	....	1	2	2	5	3	2	2
1913	....	1	....	1	1	....	4	1	3	1	....	2
1914	1	....	....	....	1	....	3	3	....	3	3	1
Elmira												
1908	4	7	6	8	4	11	29	13	6	8	10	2
1909	2	3	2	5	6	2	2	7	33	12	10	3
1910	8	1	1	2	2	....	....	10	14	6	5	2
1911	....	4	1	2	2	6	3	5	8	9	3	....
1912	2	2	....	3	6	....	8	3	10	19	1	1
1913	....	8	3	1	1	3	1	2	6	14	5	4
1914	2	7	3	1	2	3	1	4	13	2	4	1
Plattsburg												
1908	....	1	....	....	....	....	....	....	2	1	1	1
1909	....	....	....	....	....	....	....	....	9	2	1	1
1910	1	....	1	1	....	....	2	2	....	2	1	....
1911	....	....	....	....	....	....	....	....	1	1	....	....
1912	....	....	....	....	....	....	1	1	....	4	....	....
1913	....	....	1	....	....	....	2	1	4	13	1	....
1914	....	....	....	....	....	....	....	....	....	....	....	....
Hudson												
1908	....	5	1	....	....	1	2	1	1	....	....	....
1909	....	2	1	....	1	....	1	1	3	....	....	1
1910	1	3	3	2	....	....	2	4	6	1	2	1
1911	....	....	3	1	....	1	....	....	8	8	....	1
1912	1	....	....	3	....	2	2	....	2	....	....	1
1913	1	....	1	....	1	....	3	7	14	1	....	1
1914	....	....	....	....	....	3	....	7	21	13	1	....
Cortland												
1908	....	....	....	....	....	....	....	....	5	3	....	2
1909	....	....	....	....	....	....	....	1	3	1	....	....
1910	....	....	....	....	....	....	....	5	3	2	....	....
1911	....	....	....	1	....	....	1	7	3	1	1	1
1912	....	2	2	1	2	....	....	2	1	1	....	....
1913	....	1	1	1	....	1	....	2	3	7	....	1
1914	1	....	....	....	....	....	4	1	5	4	....	....
Poughkeepsie												
1908	2	7	9	2	2	....	1	3	2	5	2	....
1909	1	10	4	2	4	....	2	....	5	1	5	1
1910	....	1	....	....	2	3	4	15	4	4	2	2
1911	6	5	1	5	2	1	1	6	2	3	3	1
1912	4	1	2	2	....	3	3	2	3	2	4	....
1913	2	1	1	....	....	....	....	5	....	....	6	2
1914	1	....	5	2	....	....	....	....	5	1	....	1
Buffalo												
1908	20	13	25	18	17	30	51	44	79	66	59	33
1909	30	23	16	11	28	19	50	67	93	33	41	37
1910	31	36	20	27	27	13	22	35	66	55	43	41
1911	33	56	64	33	33	28	42	73	71	47	31	35
1912	26	16	10	29	53	20	22	55	36	29	27	17
1913	27	17	7	18	17	17	25	29	53	36	24	32
1914	35	19	31	21	15	24	6	36	88	44	32	33
Lackawanna												
1908	....	....	....	....	....	....	....	....	....	....	....	....
1909	....	....	....	....	....	....	1	4	14	6	3	5
1910	1	....	1	....	....	....	....	1	3	5	2	1
1911	1	1	4	....	1	....	....	....	1	3	1	3
1912	2	....	1	2	....	3	3	....	4	2	5	3
1913	2	1	....	....	1	2	1	1	1	....	3	1
1914	....	1	1	1	....	....	8	1	1	1	....	....

Digitized by Google

APPENDIX XXVIII — *Continued*

Cities	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Gloversville												
1908	....	....	....	....	....	....	....	2	1	7	2	....
1909	....	1	....	....	....	....	....	1	1	6	2	1
1910	....	....	....	....	....	....	....	....	....	....	1	....
1911	....	....	1	1	1	4	3	2	2	1	2	1
1912	....	....	1	....	2	1	....	2	4	1	....	3
1913	....	....	....	....	....	....	3	1	1	4	....	1
1914	1	1	....	2	2	....	2	....	....	1	1	....
Johnstown												
1908	....	....	....	....	....	....	1	....	1	3	....	1
1909	....	1	....	....	....	....	....	....	1	....	1	....
1910	....	....	....	....	....	....	....	....	....	....	....	1
1911	....	....	....	....	1	....	....	....	1	1	....	....
1912	....	....	....	....	....	....	....	....	....	....	....	....
1913	....	....	....	....	....	....	....	....	....	2	....	....
1914	....	....	....	....	....	....	....	....	....	....	....	....
Batavia												
1908	2	....	2	2	....	....	....	2	3	3	1	2
1909	1	3	1	....	....	....	2	....	3	5	3	....
1910	1	1	....	....	....	1	....	2	3	....	....	....
1911	3	1	....	....	2	1	4	2	1	2	....	....
1912	....	....	....	1	....	....	2	....	4	1	....	....
1913	....	....	....	....	....	....	....	....	4	4	4	3
1914	3	12	7	....	....	....	....	....	....	....	....	....
Catskill												
1908	....	2	1	....	2	....	1	....	5	1	....	1
1909	1	1	3	....	2	2	....	....	2	3	1	2
1910	2	2	10	7	2	5	....	2	1	....	1	1
1911	2	2	3	1	1	....	1	1	2	....	....	1
1912	6	4	2	1	3	....	1	....	1	1	....	....
1913	10	1	2	6	3	1	1	1	....	2	9	....
1914	2	....	6	4	3	1	....	2	1	....	....	....
Little Falls												
1908	....	....	....	....	....	3	....	1	1	....	....	....
1909	....	....	....	....	1	....	....	....	1	8	1	....
1910	....	....	....	....	....	....	....	....	....	3	....	2
1911	....	....	....	....	....	....	....	....	....	2	....	1
1912	....	....	1	3	1	....	2	2	2	1	2	3
1913	2	1	....	1	....	....	2	3	8	11	1	1
1914	....	....	....	....	....	....	....	....	1	1	....	....
Watertown												
1908	2	3	15	8	6	4	4	14	19	12	10	9
1909	8	10	17	7	2	3	5	6	14	13	9	7
1910	21	13	20	8	10	5	3	7	27	23	12	12
1911	11	10	11	3	8	2	11	22	21	11	10	5
1912	5	7	8	3	2	6	2	10	5	6	6	1
1913	3	3	2	2	2	3	3	7	11	9	4	3
1914	7	2	3	1	2	2	1	6	5	7	2	3
Oneida												
1908	....	....	1	....	....	....	....	2	3	....	....	1
1909	....	1	....	....	....	....	....	....	....	1	....	....
1910	....	....	....	....	2	....	....	....	....	2	2	....
1911	....	....	....	....	....	....	....	4	....	1	2	2
1912	....	....	....	....	2	1	....	....	....	4	....	....
1913	....	....	1	2	....	....	....	....	....	2	....	....
1914	....	....	....	....	....	....	....	1	....	....	....	....
Rochester												
1908	10	....	....	....	....	....	10	....	30	20	8	17
1909	5	2	6	1	3	2	2	7	11	20	16	9
1910	2	4	3	3	2	2	15	20	46	76	29	8
1911	6	11	1	1	1	1	10	7	13	15	10	23
1912	8	3	6	7	5	1	3	10	15	17	8	6
1913	3	1	5	0	12	5	13	16	14	18	20	6
1914	4	4	2	....	4	3	13	22	12	26	19	3

Digitized by Google

APPENDIX XXVIII — *Continued*

Cities	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Amsterdam												
1908	2	....	....	....	5	1	3	1	1	2	1	....
1909	....	....	....	....	1	3	2	....	3	7	9	4
1910	6	2	....	....	1	....	....	2	6	3	....	1
1911	2	1	1	1	2	1	....	6	2	....	2	1
1912	2	....	....	....	1	2	2	1	4	9	....	5
1913	8	2	2	....	1	1	2	2	4	2	2	1
1914	1	....	1	1	3	....	....	....	....	1	1	1
Lockport												
1908	3	3	5	3	20	15	1	2	3	1	2	18
1909	14	15	4	2	....	13	10	29	13	3	6	7
1910	7	11	6	9	6	3	2	5	6	4	6	7
1911	3	9	13	4	1	2	5	1	10	4	12	5
1912	2	1	2	....	4	3	4	....	6	....	1	1
1913	....	4	14	15	8	8	24	12	8	8	4	2
1914	3	....	3	....	1	8	2	2	1	3	....	1
Niagara Falls												
1908	11	13	10	8	5	8	5	6	3	2	5	38
1909	37	30	28	13	13	15	11	13	26	30	33	50
1910	41	30	23	13	13	11	9	9	9	8	6	7
1911	29	82	63	35	19	23	15	25	13	16	5	38
1912	28	12	5	1	7	1	2	2	3	1	2	2
1913	4	1	3	....	2	....	....	2	6	2	1	....
1914	....	....	3	1	2	1	....	2	2	4	4	....
North Tonawanda												
1908	6	2	1	....	1	2	1	9	2	2	7	1
1909	5	....	2	....	....	....	2	1	4	2	3	6
1910	7	4	....	1	3	2	....	2	2	1	2	16
1911	16	9	4	....	4	6	5	4	16	1	....	4
1912	6	4	....	....	4	5	4	3	5	5	4	3
1913	2	5	5	12	11	2	3	12	11	13	12	10
1914	4	2	8	4	9	5	11	12	21	16	7	4
Rome												
1908	4	1	9	....	....	1	4	5	....	4	6	10
1909	1	....	1	....	1	1	....	2	5	3	5	5
1910	5	1	1	1	2	....	2	3	2	4	6	5
1911	2	2	1	1	....	1	1	2	1	1	5	11
1912	6	....	....	1	....	2	2	....	6	....	7	1
1913	4	1	....	1	....	1	2	2	....	1	1	3
1914	....	1	....	....	....	....	....	1	1	3	3	1
Utica												
1908	1	1	3	2	2	3	2	9	19	7	....	3
1909	2	3	....	2	....	3	....	2	9	4	1	2
1910	....	....	....	2	....	2	2	6	4	2	2	2
1911	2	....	....	4	1	3	2	4	4	3	4	1
1912	....	1	1	....	1	....	1	1	5	1	2	1
1913	1	....	1	....	....	....	....	7	....	7	5	5
1914	....	....	....	....	2	....	....	....	1	1	2	1
Syracuse												
1908	5	4	1	6	1	6	10	6	45	38	23	9
1909	9	12	5	8	7	4	2	15	20	23	19	3
1910	2	1	4	2	3	5	15	51	61	85	20	13
1911	6	12	2	13	9	5	10	13	10	8	10	7
1912	8	5	3	3	3	2	3	3	4	2	3	8
1913	....	2	1	1	2	3	1	2	2	9	4	4
1914	3	....	2	....	2	2	....	8	6	1	....	....
Geneva												
1908	1	4	4	....	....	....	....	3	1	....	....	....
1909	....	....	....	....	....	....	....	5	2	1	2	4
1910	6	3	5	....	1	....	1	4	1	1	....	5
1911	5	5	2	....	4	1	1	11	10	7	3	2
1912	1	....	1	1	2	....	4	1	2	4	3	....
1913	....	....	....	....	1	....	....	....	1	1	2	....
1914	10	....	1	....	....	....	....	1	....	....	....	....

Digitized by Google

APPENDIX XXVIII — *Continued*

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Ossining												
1908	1	1	....	....	....	1	....	....	....	....	1	....
1909	....	....	....	....	1	1	1	....	1	....	....	....
1910	....	....	2	1	....	1	....	1	5	2	1	....
1911	....	....	....	1	1	....	....	2	3	2	2	....
1912	....	....	....	....	....	....	....	4	5	4	6	1
1913	....	....	1	....	1	....	....	2	....	1	1	....
1914	....	....	....	5	....	....	....	....	....	....	....	....
Peekskill												
1908	11	16	16	....	....	....	1	1	10	1	....	1
1909	....	....	....	2	....	2	....	1	....	....	....	....
1910	....	1	....	1	1	....	2	1	4	....	23	11
1911	2	....	....	....	....	4	1	2	1	....	1	....
1912	....	....	....	....	....	....	....	1	2	1	....	....
1913	....	....	....	2	1	....	....	1	2	3	3	3
1914	....	....	....	....	....	....	....	....	....	....	....	....
Port Chester												
1908	1	....	....	....	1	....	1	....	2	2	2	1
1909	....	3	....	....	....	....	1	1	....	1	1	....
1910	....	....	....	1	....	....	3	3	2	2	1	2
1911	....	....	2	2	....	1	....	6	....	....	1	1
1912	....	....	....	....	1	....	....	....	....	....	2	2
1913	....	....	....	....	....	....	1	2	1	....	....	....
1914	....	....	....	....	....	....	....	2	4	....	....	....
White Plains												
1908	....	1	....	....	....	....	....	....	1	1	....	....
1909	....	1	....	....	....	....	....	....	....	2	....	....
1910	....	....	....	....	....	....	1	9	22	9	1	....
1911	1	3	....	3	1	....	....	10	....	....	3	....
1912	....	....	....	1	....	1	....	....	2	1	1	....
1913	....	....	....	....	....	....	....	6	....	....	....	....
1914	....	....	....	1	....	2	2	....	1	....	1	....
Yonkers												
1908	....	3	....	1	....	....	2	5	2	1	1	1
1909	....	....	....	....	1	2	7	3	7	5	1	4
1910	1	23	9	3	1	....	....	11	13	7	2	2
1911	3	1	1	1	....	2	12	4	3	4	3	1
1912	6	3	....	1	....	4	1	3	6	7	2	1
1913	1	....	2	1	3	1	1	2	11	6	1	....
1914	....	1	1	....	1	....	1	1	3	5	3	4
Fulton												
1908	2	2	1	1	2	1	4	1	1	2	....	....
1909	....	....	....	....	....	2	1	1	2	2	....	1
1910	3	1	....	....	....	....	....	3	6	5	2	1
1911	....	2	....	....	....	....	1	....	....	....	1	....
1912	....	....	....	....	....	....	....	3	....	....	....	....
1913	....	....	2	1	....	....	1	6	16	9	8	....
1914	....	....	....	....	....	....	4	4	....	4	2	....

Digitized by Google

APPENDIX XXIX

TABLE SHOWING CASES AND CASE RATES OF TUBERCULOSIS REPORTED BY COUNTIES DURING 1914

COUNTY	NUMBER OF NEW CASES		Cases per 100,000 population
	Pulmonary	Other forms	
Albany	519	.....	300
Allegany	24	.....	50
Broome	108	.....	111
Cattaraugus	70	.....	180
Cayuga	90	4	140
Chautauqua	98	1	94
Chemung	55	.....	100
Chenango	21	.....	60
Clinton	24	.....	50
Columbia	59	.....	130
Cortland	26	.....	89
Delaware	16	.....	35
Dutchess	250	.....	299
Erie	1,384	142	288
Essex	138	.....	413
Franklin	1,154	.....	2,525
Fulton	27	8	78
Genesee	26	.....	70
Greene	23	.....	76
Hamilton	16	.....	360
Herkimer	66	.....	117
Jefferson	45	5	63
Lewis	8	.....	32
Livingston	17	.....	45
Madison	12	.....	30
Monroe	746	.....	264
Montgomery	144	.....	250
Nassau	73	.....	88
Niagara	60	.....	65
Oneida	162	2	106
Onondaga	193	.....	96
Ontario	25	.....	47
Orange	207	.....	178
Orleans	26	.....	81
Oswego	46	.....	64
Otsego	45	.....	95
Putnam	14	.....	96
Rensselaer	254	.....	210
Rockland	29	.....	61
St. Lawrence	72	.....	81
Saratoga	62	.....	102
Schenectady	144	2	164
Schoharie	15	.....	63
Schuyler	3	.....	21
Seneca	18	.....	69
Steuben	61	.....	73
Suffolk	80	.....	83
Sullivan	716	.....	2,120
Tioga	13	.....	50
Tompkins	70	.....	208
Ulster	99	.....	108
Warren	43	.....	103
Washington	23	.....	47
Wayne	35	.....	69
Westchester	540	5	192
Wyoming	15	.....	46
Yates	4	.....	21
State institutions	981	.....	.....
Total	9,303	169	
New York City	21,601	.....	
Totals	30,904	169	
Other forms	169		
Grand total (all forms)	31,073		

Digitized by Google

Digitized by Google

DIVISION OF SANITARY SUPERVISORS

Digitized by Google

Digitized by Google

DIVISION OF SANITARY SUPERVISORS

ALBANY, N. Y., *February* 1, 1915

HERMANN M. BIGGS, M. D., *State Commissioner of Health, Albany, N. Y.:*

DEAR SIR.— Herewith is transmitted the annual report of the Division of Sanitary Supervisors for the year 1914.

The duties of the Sanitary Supervisors are prescribed in the Public Health Law, chapter 559, section 4-a, and read as follows:

§ 4-a. Sanitary districts; sanitary supervisors; public health nurses. The commissioner of health shall from time to time divide the state, except cities of the first class, into twenty or more sanitary districts. He shall appoint for each of such districts a sanitary supervisor who shall be a physician. Each sanitary supervisor, under the direction of the commissioner of health and subject to the provisions of the sanitary code, shall, in addition to such other duties as may be imposed upon him, perform the following duties:

1. Keep himself informed as to the work of each local health officer within his sanitary district;

2. Aid each local health officer within his sanitary district in the performance of his duties, and particularly on the appearance of any contagious disease;

3. Assist each local health officer within his sanitary district in making an annual sanitary survey of the territory within his jurisdiction, and in maintaining therein a continuous sanitary supervision;

4. Call together the local health officers within his district or any portion of it from time to time for conference;

5. Adjust questions of jurisdiction arising between local health officers within his district;

6. Study the causes of excessive mortality from any diseases in any portion of his district;

7. Promote efficient registration of births and deaths;

Digitized by Google

8. Inspect from time to time all labor camps within his district and enforce the regulations of the public health council in relation thereto;

9. Inspect from time to time all Indian reservations and enforce all provisions of the sanitary code relating thereto;

10. Endeavor to enlist the cooperation of all the organizations of physicians within his district in the improvement of the public health therein;

11. Promote the information of the general public in all matters pertaining to the public health;

12. Act as the representative of the state commissioner of health, and under his direction, in securing the enforcement within his district of the provisions of the public health law and the sanitary code.

The field of activity of the Sanitary Supervisors is indicated in Appendix I.

Instruction

The Sanitary Supervisors as soon as appointed came to Albany and spent several days with the directors of each division reviewing in detail the work they were expected to do. Appendix II is a copy of a letter of special instructions which outlines the points of law with which the Sanitary Supervisors must be familiar. This appendix also indicates the supplies with which each Supervisor is provided by the Department and the first duties to be performed. From time to time special instructions were sent to the Supervisors.

As a type of the work performed by the Sanitary Supervisors, the following notes taken month by month are quoted:

August

I personally inspected the sanitary conditions of 63 summer resort hotels.

Made a special investigation of a diphtheria carrier.

Obtained a sanitary disposal plant for the dairy waste of ——— Company.

Furnished the Division of Sanitary Engineering with additional information regarding insanitary disposal of creamery wastes.

Investigated the matter of low water in ————————, which condition had been complained of as a nuisance by the campers along the shore on account of the odor arising from the same. Secured from the Conservation Commission a hearing on the matter for September 11, 1914. In the meantime I secured a nearly normal water level by having the flash boards removed from the dam.

Have had either personal interviews with or written letters to 12 different health officers in regard to the enforcement of the Vaccination Law this fall, in many instances calling on members of boards of education.

Digitized by Google

Have visited and made arrangements for space for child welfare exhibits at ————, ————, ————, where county fairs will be held. Have arranged for publicity of exhibits.

Have furnished information concerning the ———— County Medical Milk Commission to the Committee of the International Association of Dairy and Milk Inspectors.

Called attention to and had investigation made by the Department of Agriculture of case of use of oleomargarine.

Have written numerous letters to health officers in my district besides calling on many of them in regard to the program for the district conference at the State Health Officers' Conference at Saratoga, September 15 to 17, and have prepared together with ————, a program for the same, and have also prepared a paper on "Suggestions for Health Officers for Health Day in the Schools," which I shall read at the district conference.

September

Visited 40 summer resort hotels.

Secured vaccination of lumbermen in camps.

Wrote article for Health News.

Arranged for formation of a Health League.

Sent circular letter to 52 health officers in regard to need of regulation of common towel, drinking cup, spitting, and barber shops.

Investigated cases of poliomyelitis.

October

Secured construction of proper septic tank for disposal of dairy wastes at a creamery at ————.

Have investigated 20 cases of poliomyelitis in my district. Denied the statement which appeared in the public press that poliomyelitis was caused by eating apples which had been sprayed.

Investigated with the representative of the Department of Agriculture the sale of alleged certified milk by the ———— Club Company.

Made a thorough examination of the entire water-shed of the following four villages: ————, ————, ————, ————.

Am making a detailed report in each case to the Division of Engineering.

Investigated and made report to the Department of outbreak of typhoid fever in the village of ————.

Investigated for the Department the failure of three health officers to report cases of communicable disease on dairy farms.

Notified town board of ———— to appoint a health officer under the law and notified Board of Education of ———— that a medical school inspector must be appointed.

Compiled data submitted by health officers in regard to common drinking cups, etc.

November

Under special work this month I made a thorough examination of and reported on the public water supplies of the villages of ———— and ————.

Arranged for the care of two cases of tuberculosis from the city of ————. These patients were taken to————.

Advised health officer of ———— of the procedure of commitment of careless tubercular patients under the law.

Attended conference of New York State Tuberculosis Workers at Syracuse, November 11 and 12, and conference of Sanitary Supervisors for instruction in milk work at Ithaca, November 13 and 14.

Investigated and reported to the Division of Engineering the condition of sewers in the village of ————.

Arranged for a conference of health officers in my district to be held in ———— December 10 for the purpose of giving them instruction in the new milk and cream regulations of the Sanitary Code.

Secured the appointment of a Medical Inspector of Schools in ————.

Digitized by Google

December

Called a conference of health officers of ———, ———, ——— counties in the city of ———, December 10.

Secured medical inspection of schools at ——— using an outbreak of chickenpox to show need of same.

Secured the cooperation of Women's Civic League of——— in an effort to secure payment of salary for tuberculosis nurse for city.

Investigated case of trachoma in school at ———.

Conferred with Board of Education relative to the appointment of medical school inspector for town of ———.

Wrote a large number of letters in reply to inquiries from producers explaining the provisions of the law regarding the sale of milk and cream.

Furnished the village of ——— with information as to where they may obtain the services of different engineers to give them the information as to the probable cost of a village sewer system and arranged to speak at a mass meeting to be held shortly to discuss the subject.

Assisted in the scoring of babies at a "Better Babies Contest" in ———.

Secured the applications for appointment for subregistrars in the towns of ———, ———, ———, ———, ———.

Provided for bacterial counts of milk from ———.

Secured a list of lumber camps in my district and have secured the cooperation of the management to bring about the vaccination of the lumbermen.

Methods of Investigating Communciable Diseases

When advice comes to the Sanitary Supervisor from the State Department of Health, or from the local health officer, that an outbreak has occurred, the Supervisor immediately goes to the municipality. In company with the health officer he visits a number of cases in order to make sure of the diagnosis. If the outbreak is one the infectious agent of which may be conveyed by water, a general notice is issued through the press to the people of the locality stating that it is advisable to boil all water that is used for drinking purposes until the exact source of the outbreak is determined. If it is suspected that the infectious agent may be milk-borne, instructions are issued to pasteurize all milk before using it. An idea of the extent of the outbreak is then determined by consultation with the local physicians and by reference to the cases on record with the local health department.

In order to secure detailed information regarding each case, a public health nurse is usually employed to visit each case and obtain information on a special prepared questionaire. When all of this information has been obtained, it is tabulated according to the date of onset of each case, and the source of infection. As soon as this data is compiled it is possible to state the source of the outbreak, the means of transmission, and to indicate the immediate steps to be taken to check the spread of the disease.

Digitized by Google

Report blanks

Daily reports are required on a post card indicating the nature of the work performed and the number of hours devoted to the work of the State. (Appendix III-a.) Each month the Sanitary Supervisor reports to the Department a summary of the work he has performed during that month. That the reports may be uniform a blank, Appendix III-b, is provided. At the close of the year the Commissioner asks for a summary of the work so far accomplished. A so-called primary district report blank is made out for each municipality. This blank is made out on the first visits. If there are substantial changes to report at subsequent visits another report is filed. (Appendixes III-c and d.) In each municipality is a registrar of vital statistics. The Supervisor confers with him and reviews the Vital Statistics Law and a report is submitted on a suitable form. (Appendix III-e.) Occasionally the Sanitary Supervisor is sent to investigate a special condition. The report is made on special report blank form. (Appendix III-f.)

If an outbreak of a communicable disease occurs, the Sanitary Supervisor goes to the place and reports his findings on another form. (Appendix III-g.)

The work accomplished

After familiarizing himself with the requirements prescribed by the Department, each Sanitary Supervisor called his health officers to a common center of the district for a conference. Appendix IV is a typical announcement sent by the Sanitary Supervisor to his health officers. At this meeting the duties of health officers were outlined, and the Sanitary Code as it applies to communicable diseases, milk regulations, midwives, labor camps, etc., was explained. The Public Health Law as it applies to the physical examination of school children and the vaccination of the same was a common topic of discussion. The form of the Sanitary Survey was also discussed at some length. No set form was prepared at first, but as the needs became apparent a form, Appendix V, was finally approved.

In order that the members of the Department might become

Digitized by Google

acquainted with the health officers, it was the usual practice for one or more members such as the deputy commissioner, or director of a division, to attend this conference.

The following table gives a summary of the Sanitary Supervisors' monthly reports submitted during the year 1914 on form Appendix III-b.

Number of health officers interviewed	1615
Number of registrars interviewed	941
Number of epidemics investigated	185
Number of epidemics under control	154
Number of epidemics not under control	6
Number of epidemics concluded	91
Important investigations	45
Addresses	247
Number of nuisances observed	413
Number of nuisances abated	393
Number of health officers delinquent	128
Number of health officers investigated	227
Number of inspections requested by Department	284
Number of health officers requesting assistance	590
Number of dairies inspected	381
Changes in health officers and registrars	46
Number of sewage disposal plants investigated	186
Special work done	323

Recapitulation

1 Each of the twenty Sanitary Supervisors makes daily and monthly reports of his work to the Department.

2 Each has a district that averages 2,500 square miles and contains an average rural population of 112,000 and an urban population of 115,000.

3 Each has supervision of the work of about 56 health officers and 68 registrars of vital statistics.

4 An investigation and report into the cause of epidemics in his district is a duty of each Sanitary Supervisor. If an epidemic occurs the Sanitary Supervisor takes charge of the situation in order to secure its immediate control.

5 Complaints of nuisances in a locality are received and if local authorities are unable to secure an improvement the Sanitary Supervisor assists in securing an abatement.

6 The Sanitary Supervisor by means of lectures, conferences, and expert advice fosters the educational work on health topics in his district.

7 Each inspects and reports on about 24 public water supplies.

Digitized by Google

8 There are on an average 8 sewage disposal plants in each district which must be frequently inspected.

9 There are on an average 4 public institutions in each district which the Sanitary Supervisor visits and supervises wherever outbreaks of communicable disease occur among the inmates.

10 There are on an average 76,000 cows in each district. The Sanitary Supervisor must assist the health officers in grading the dairies and enforcing the regulations controlling the sale of milk.

11 In each district there is on an average 1 tuberculosis dispensary and 1 tuberculosis county hospital which the Sanitary Supervisor inspects, reports upon, and advises.

12 Each district averages three infant welfare stations which the Sanitary Supervisor assists in maintaining in an effective condition.

13. In each district there are on an average 400 physicians. Where there is any doubt as to the diagnosis or any disagreement regarding the diagnosis of a case of contagious disease, the Sanitary Supervisor is sent by the Department to assist in determining the diagnosis. In order to do this successfully the scientific qualifications of the Supervisor must be of the highest order.

14. The Sanitary Supervisors are now covering their districts effectively. They have worked less than a year. The health officers are constantly changing so that new health officers need training in their work, and old health officers need assisting. The Sanitary Supervisors are extremely busy men.

15. Seven Sanitary Supervisors are also health officers of large communities. This is of advantage:

A To the State

a A career in public health is opened and an inducement afforded for men of ability to obtain necessary special training in public health work.

b The combined salary makes it possible to obtain the services of men of higher order of ability.

c Health officers of large cities are the best trained men in public health work — health officers of neighboring communities respect them.

d Cooperative health work in the district is more easily accomplished.

Digitized by Google

B To the city

a Health officers are devoting only part time to public health work. If the health officer is a Sanitary Supervisor he is devoting all his time to public health work and therefore becomes a specialist.

b A higher class man can be obtained because of the combined salary.

c Interest in local health work stimulates reciprocal interests with neighboring health officers.

Central office

A central office is maintained at the Health Department from which the activities of the Supervisors are directed and records are kept.

The Sanitary Supervisors are the field force for all the divisions of the State Department of Health. They are called upon for service by the Director of the Division of Communicable Diseases to aid in the suppression of epidemics and diagnosing diseases; the Division of Engineering to inspect water supplies and assist in the abatement of nuisances; the Director of Laboratories to assist in the establishment of supply stations and to stimulate the health officer in the use of laboratory supplies; the Director of the Division of Vital Statistics for the adjustment of difficulties with registrars of vital statistics; the Director of Publicity and Education for lectures and arrangement of public meetings; the Director of the Division of Child Hygiene for the arrangement of infant welfare stations, and by the State Commissioner of Health for special duties. The work of the Sanitary Supervisor is extremely varied and multitudinous.

Digitized by Google

APPENDIX I

FIELD OF ACTIVITY OF SANITARY SUPERVISORS

SUPERVISORS	Health units	Area in square miles	Health officers	Registrars	Population, 1910	Public water supply	Sewage disposal	Public institutions	Number of cows in dairies	Tuberc. dispensary	Tuberc. county hospital	Infant welfare stations
John A. Smith	58	4,736	38	42	93,254	22	4	3	64,530	.....	.....	.....
B. R. Wakeman	103	4,748	86	109	203,538	26	.....	4	194,356	1	.....	.....
C. C. Duryee	94	3,514	78	94	204,881	47	5	2	162,060	1	1	2
J. E. Clark	105	4,248	74	106	235,362	31	8	4	141,493	2	1	5
W. J. Denno	15	208	14	15	46,878	10	7	4	2,268	.....	.....	.....
C. S. Prest	69	2,680	57	68	141,918	14	13	3	49,790	1	.....	1
O. R. Eichel	36	1,204	34	38	295,942	10	2	1	33,287	4	2	4
F. W. Sears	101	2,606	89	103	339,068	21	12	8	104,303	1	2	4
J. S. Walton	45	2,503	38	43	106,474	10	6	.....	33,822	2	2	2
J. A. Conway	85	2,458	70	80	124,774	21	2	2	77,172	2	.....	1
C. V. Patchin	100	2,434	84	85	300,744	31	12	7	76,891	1	1	17
J. J. Mahoney	87	2,433	76	80	171,045	25	7	2	109,427	2	.....	2
C. W. Berry	80	3,124	65	78	241,578	34	11	3	90,177	2	2	1
Edw. Clark	77	2,034	71	74	658,021	26	9	9	64,636	3	2	12
P. V. Winslow	73	2,184	57	70	161,533	24	8	5	62,790	1	1	4
Isaac Brewer	76	2,004	69	69	148,079	17	6	3	46,922	.....	1	1
H. H. Crum	58	1,806	47	50	127,937	14	3	4	48,418	2	2	2
F. Overton	34	1,552	33	34	180,068	29	9	5	8,381	.....	.....	.....
L. W. Hubbard	55	718	44	54	297,730	31	30	4	19,900	3	1	8
Paul Brooks	102	2,759	100	100	182,922	30	3	4	144,780	.....	1	.....
Total	1,453	49,953	1,294	1,393	4,346,731	479	157	77	1,535,503	28	19	66
Average	72	2,497	61	69	217,336	24	8	4	76,775	1.4	1	3

Digitized by Google

APPENDIX II

NEW YORK STATE DEPARTMENT OF HEALTH,

ALBANY, *May* —, 1914.

To the Sanitary Supervisor:

DEAR DOCTOR.— You are hereby assigned as Sanitary Supervisor to Sanitary District No. , consisting of the counties of.....
.....
.....

You will notify the Department in writing immediately of your permanent address and telephone number.

You are herewith furnished a copy of the Sanitary Code and copies of the following laws of 1913:

Chapter 559, amending the Public Health Law, generally.

Chapter 619, being the Vital Statistics Law.

Chapter 627, amending the Education Law, in relation to medical inspection of schools.

You will study these laws carefully and make yourself thoroughly familiar with all their provisions.

A Public Health Manual brought up to date is in course of preparation and a copy will be sent you as soon as printed. In the meantime you should also make yourself familiar with the following sections of the Public Health Law:

Section 630, governing the protection of food supplies in markets and restaurants.

Section 310, vaccination of school children.

Sections 321, 323, 325, 326, 327, 330, 331 and 332, these sections being part of the so-called "Tuberculosis Law" which were not amended by said chapter 559 of the Laws of 1913, and which are not therefore found in the copy of said chapter herewith enclosed.

And also the following sections of certain other general laws:

Penal Law, sections 1530 to 1533, relating to nuisances; sections 43 and 1740 to 1763, relating to the enforcement of health laws, generally.

Agricultural Law, sections 32 and 34, relating to milk; sections 90 and 96, relating to rabies.

Labor Law, sections 71 and 160 to 173, relating to the employment of women and children.

You will be furnished by the Department with the following:

1 Badge
2 Map of New York State showing sanitary districts
3 List of health officers and boards of health within your district
4 Full set of the Department's literature
5 Copy of the legislative manual.
6 Forms of questionaire on epidemics
7 1912 Report of this Department
8 Forms for daily reports
9 Forms for reports on special subjects

You will report daily to this Department by postal card. You will also file a report not later than the fifth day of each month describing the work performed by you during the previous month. After any special investigation made by you, you will report the same in writing as soon as possible.

For convenience in filing, such special reports must be made on special forms of uniform size (8 x 11), to be furnished by this Department. As reports are filed by localities, a separate form must be used for each locality reported. Monthly reports must be made on paper of the same size (8 x 11).

In carrying out the provisions of chapter 559 of the Laws of 1913, you will need to call a conference of health officers early; and you should consider the special needs of your own district, comparing the mortality and morbidity reports of your district with those of other districts and comparing the cities, villages and towns within your district.

Digitized by Google

It is, of course, necessary for you to know thoroughly all the provisions of the Sanitary Code and it is also important for you to familiarize yourself with the various local codes in your district. In case of any violation found by you either of the state code or the local code, you should pay particular attention to having your evidence in such form that a successful prosecution may be based thereon.

You should visit every Health Officer in your district, endeavoring to secure his cooperation and calling his attention to the Public Health Law as it affects him. You should see that every Health Officer has received the copy of the Sanitary Code sent him and should impress on him the importance of his familiarizing himself with its provisions, reminding him that his local board may make sanitary regulations of its own not inconsistent therewith.

You should also get in touch with each Registrar of Vital Statistics in your district and should see that he has a copy of the Vital Statistics Law and should advise him of the necessity of reporting all births and deaths as provided therein.

It is also important that you should be familiar with the various social welfare and philanthropic organizations, the women's clubs, temperance unions, Y. M. C. A.'s and Y. W. C. A.'s and also with the authorities and workers of the churches of the various denominations. You should also get in touch with various committees for the prevention of tuberculosis and the reduction of infant mortality.

For ease in transportation and for saving time you should be familiar with the railroads and time tables and also with the various hospital and dispensary facilities in your district.

A large amount of work has been done in the past by this Department of a consulting nature, for which medical experts have been employed. You will be expected to act as a medical expert and will be called in consultation with various health officers to diagnose cases of communicable disease.

The following is a summary of your first duties:

Acquire and advise the Department of permanent address.

Call a conference of the Health Officers of your district, and go over the new work required of them by the present Public Health Law.

Make survey of your own municipality.

Study this Department's last annual report.

Compare mortality of your municipality with that of other municipalities in your district and the mortality of your district with that of other districts.

Consider special needs of your district.

Take up special work in different communities as most needed such as: typhoid fever, vaccination, water supply, child hygiene, tuberculosis, and sewage disposal.

Try to know, and secure the cooperation of all Health Officers in your district, calling their attention to the Sanitary Code, the amendments to the Public Health Law and their increase in salary.

Visit important places first.

Get in touch with social welfare and philanthropic organizations.

Be familiar with railroads, transportation, hospitals, dispensaries, etc.

Respectfully yours,

HERMANN M. BIGGS,
Commissioner of Health.

Digitized by Google

APPENDIX III-A

Date .....

The following business was performed this day at.....
.....
County ..... Prim. Dist. .....
.....
.....
.....
.....
Hours work for State .....
.....
Sanitary Supervisor

APPENDIX III-B

Monthly Report of Sanitary Supervisor

MONTH OF ....., 1915

1 Number of health officers interviewed.....
2 Number of registrars interviewed.....
3 Epidemics investigated:

Disease	Place	Agent of Transmission		
		Water	Milk	
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

4 Number of epidemics now under control.....
5 Number of epidemics now not under control.....
6 Number of epidemics now concluded.....
7 Addresses:

Subject of Address	Where	Date	Auspices of	Attendance
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

8 Number of nuisances observed ..... 9 Abated .....
10 Number of inspections requested by State Department of Health.....
11 Number of health officers requesting assistance.....
12 Number of dairies inspected.....
13 Number of sewage disposal plants investigated.....
14 Special work done.....
.....
.....
.....

15 Are there any changes in the Health Officers or Registrars during the month, if so, who and where?
.....
.....
.....

16 Please indicate the number of Registrars who are doing satisfactory work
.....

Expenses for the month $.....
Date ....., 1915

.....
Sanitary Supervisor

Digitized by Google

APPENDIX III-C

New York State Department of Health, Albany

PRIMARY DISTRICT NUMBER.....

Primary District Report Blank No. 1

Town
Village County
City
Approximate population
Visited by Dr. , Sanitary Supervisor, on , 1914
Health Officer
Date of appointment
Salary of Health Officer
President of Board of Health
Other members Occupation of members
Secretary of Board of Health
Health Department expense — 1913
Registrar
Deputy registrar
President, Board of Education
School Superintendent

Laboratory Supplies

How kept?
Adequate?
Are supplies kept by Health Officer? or

Other Supplies

Are they adequate?

Vital Statistics

Are all births promptly (5 days) reported?
Are all deaths registered and permits issued *before* burial or removal?
Is the Vital Statistics Law regularly or occasionally violated by any —
(a) Physician?
(b) Midwife?
(c) Undertaker?
(Give name and address of each)
Is registration observed?
(a) Physicians?
(b) Midwives?
(c) Undertakers?

Communicable Diseases

Reported?

Vaccination

Has school board passed resolution?
Is Education Law enforced?

Tuberculosis

Is Tuberculosis Law enforced?

School Inspection

By health officer, or whom?
How much paid per pupil?

Milk Supply

How supervised?
License or permit?
Dairy farms scored?

Infant Welfare

Is nurse employed?
Is Station established? Date
Remarks:

Digitized by Google

Water Supply
Source?
Character?
When surveyed or analyzed?
Remarks:

Sewage Disposal
Privy or cesspool?
Water carriage to
Disposal plant?

Garbage Disposal
Municipal?
Private corporation?
None?

APPENDIX III-D

Primary District Report Blank No. II.

DISTRICT .....

..... S. S. Date .....
Visited ..... H. O. .....
District No. ..... R. V. S. .....
Tuberculosis adequately reported? .....
Adequate tuberculosis supplies:
Cups ....., Holders ....., Paper napkins .....
Disinfectant....., Requisition blanks.....
Adequate laboratory supplies:
Antitoxin:
Diphtheria — Curative ....., Preventive .....
Tetanus — Curative....., Preventive .....
Ophthalmia neonatorum outfits.....
Typhoid fever — blood ....., feces .....
Culture tubes .....
Tuberculosis sputum bottles.....
Communicable diseases adequately reported.....
Sufficient supply of report cards.....
Circulars .....
Milk Regulations:
Number of dealers ..... Number of dairies .....
Number of dairies scored..... Number of licenses issued.....
What has Health Officer done on a survey of his municipality?
Statistics .....
Sewage disposal .....
Water supplies .....
School house inspection.....
Has our Engineering division made any recommendations regarding water supplies or sewage disposal that have not been accepted .....
What? .....
Chief difficulties Health Officer encounters:

APPENDIX III-E

Dist. No. ..... Examined 191

Sanitary Supervisor's Report on Work of Local Registrar

N. B.— This more specific and detailed set of questions is to replace former instructions. On entering office of Local Registrar, after introducing yourself to him (and to his deputy, if the latter is present), ask the following questions:

1 What is your district number? Registrar should know this without having to look it up. Also should enter for reference inside front cover both birth and death records. Should enter on all cards and letters (upper left-hand

Digitized by Google

corner) and also on all birth and death certificates (just at right of Item 1 — Place of Birth or Place of Death).

2 May I see your records (and certificates)? Where does he keep them and in what general condition?

3 Are certificates copied at once in records, numbered and with correct date of filing as received?

4 Does the local registrar examine certificates before acceptance and filing or granting permit?

5 Are registered numbers in proper series, beginning with No. 1 for first birth and first death that occurred in year?

6 Is date of filing correct and entered on each certificate when accepted for registration?

7 Does the registrar "date back" to cover delayed reports?

8 Are there any erasures on either certificates or book records?

9 Are there any alterations? Words or figures written over any words or figures?

10 Any rubber stamps or colored ink used either on certificates or book records?

11 Any illegal certificates or records?

12 Any omissions of essential information required by law that could readily be supplied?

13 Any certificates or records partly or wholly made out in ordinary pencil or indelible pencil?

14 Any physicians, midwives or undertakers fail to file certificates within time limit required by law? (If so, give list on back and make separate blue blank (Form No. 4) for each definite case).

15 Do undertakers sign names of informants?

16 Does Registrar issue any burial permits signed in blank?

17. Is the undertaker alert, competent, interested?

18 Has he sufficient supply of necessary blanks?

19 Does he mail his reports promptly on fifth (5th)?

20. Remarks:

(Signed) .....

Sanitary Supervisor

APPENDIX III-F

SPECIAL REPORT TO STATE DEPARTMENT OF HEALTH

By ....., M. D., Sanitary Supervisor, District No. ....
Reinvestigation of ..... at ..... of .....
County of ..... Dated ....., 191..

Received instructions from Department by ..... at .....
on ....., 191.., at ..... m. to (give brief summary): .....
.....
.....

Received information from ..... of ..... by .....
at ..... on ....., 191.., at ..... m., that (give brief summary of information):
.....
.....

Give other reasons, if any, for investigation:
.....
.....

Arrived at (*place*) ..... on ....., 191.., at ..... m.
Found conditions as follows:
.....
.....

(*If more space is required to describe conditions found, write on blank sheet of same size, number it "2a," initial it and file with report.*)

Digitized by Google

Action taken:

.....

.....

(If more space is required to give action taken, write on blank sheet of same size, number it "3a" initial it and file with report.)

Recommendations:

.....

.....

(If more space is required for recommendations, write on blank sheet of same size, number it "4a," initial it and file with report.)

Additional remarks (if any):

.....

.....

....., *Sanitary Supervisor*

APPENDIX III-G

Report Blank for Investigation of Communicable Disease

NEW YORK STATE DEPARTMENT OF HEALTH, ALBANY

Town / Village / City } of ..... County .....

DIVISION OF COMMUNICABLE DISEASES

.....

Information relating to epidemic of .....

(Diphtheria, epidemic or streptococcus sore throat, scarlet fever, measles, whooping cough, typhoid fever, paratyphoid fever, dysentery, epidemic cerebrospinal meningitis, poliomyelitis, smallpox.)

Received instructions from Department by telephone, telegram, letter or personal interview, at ..... on ....., 191.., at ..... m., to (instructions): .....

.....

.....

I arrived at ..... on ....., 191.., at ..... m. Interviewed:

..... official position .....

..... official position .....

..... official position .....

..... official position .....

The general situation is as follows:

Population .....

Chief occupations .....

General appearance of place .....

Proportion of population in poorer, and proportion of population in middle classes.....

Draw map of locality on back of this sheet showing principal streets.

Indicate location of cases by number in order of sequence. If important (a) locate wells and general water supplies; (b) locate different milk routes; (c) locate privies.

Chart incidence of disease by days or weeks and ages on inclosed ruled paper.

Description of a typical case of disease: .....

.....

.....

Summary. Duration of illness ..... Incubation period .....

Earliest symptoms .....

.....

Digitized by Google

	First week	Second week	Third week	Complications
Typical temperature curve 105				
104				
103				
102				
101				
100				
99				

Communicability ..... Fatality .....
Laboratory findings .....
Day of disease when sample for laboratory was taken.....
Diagnosis made on inspection.....
Day of disease .....
Brief history of epidemic:
.....
.....

Summary. Epidemic began ..... days, weeks, months ago.
Onset was sudden or slow. It is now increasing, stationary, decreasing.
The source of the infection was ..... The agent in spreading the infection was: flies or other insects, water, milk, green foods, sea foods, contact with excretions. Number of cases to date ..... male .....; female ..... What sources of infection can be excluded? .....

Health Measures Now in Force

Patients:
Number isolated at home .....; at hospital .....
Proportion at home .....; at hospital .....
Is immunization properly carried out? .....

Community:
Is quarantine rigid? ..... Modified? .....
Are guards employed? ..... How long isolated? .....
Is there coöperation on the part of city officials? .....
Business men? ..... School officials? .....
Is there any opposition? .....
Is prophylactic immunization employed in the home of patients? .....
And by general public? .....
Is a public health nurse employed? .....
Recommendations:
.....
.....

.....
Sanitary Supervisor

Date ....., 191..

Summary of Investigation of Water Supplies

Water supplies: Dug well, driven well, spring, rain water cistern, impounding reservoir, lake, river or stream (draw a line under source used).
Proportion of population using each of the above supplies .....
Largest per cent. of cases using water from any of the above supplies ..... (call this supply X).
Area of watershed of X ..... Number of families living on watershed of X ..... Proportion of families segregated in villages on watershed of X .....

Digitized by Google

Is the water supply contaminated above intake pipe of X? .....
How many days distant? ..... Is there a water filtration plant on watershed of X? ..... Slow sand filter? ..... Mechanical filter? ..... How long in use? ..... Dates when cleaned during last six months .....
.....
Is water of X treated with a chemical? ..... What chemical? ..... Where is water treated? ..... Does recent bacteriological examination show evidence of pollution? ..... In how small amount of water is B. Coli generally present? .....
Any privies, cesspools or sewer pipes near the well? ..... How near? .....
Any cases of ..... near X water supply? ..... Any cases of ..... near X water supply within the last 5 years? .....
Remarks:
.....
.....
.....
.....
Sanitary Supervisor

Date ....., 191..

Summary of Investigation of Milk Supplies

Number of Distributors ..... Total daily sales .....

Numbers of leading Distributors.	Source	Total Daily Sales.	No. of Cases on Route.
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
Total.....	.....	.....	.....

Largest per cent. of cases on one distributor's route .....
..... (This distributor is called X.)
How many producers supply X with milk?
Any cases in X's home? ..... If so, how long since? .....
Any cases among employes or their families? ..... If so, how long since? .....
Any cases in producers' homes? .....
Are there any carriers present? .....
Is X's milk under rigid inspection and bacteriological control? ..... Any complaint about milk spoiling? .....
Proportion of X's milk pasteurized? ..... By what system: Holding? Flash?

Recommendations:
.....
.....
Date ....., 191..

.....,
Sanitary Supervisor.

Questionaire for Finding Contact Cases

(Notes should be made from each case investigated which will cover the information asked on this questionaire.)
Name of Patient ..... Address .....
Age ..... Color ..... Sex ..... Nationality .....
Exact date of onset (Have a calendar with you and aid the memory by reference to holidays that occurred near the date of onset.)
.....

Digitized by Google

Name and address of physician .....
Residence when taken sick .....
Previous residence ..... date from ..... to .....
Subsequent residence ..... date from ..... to .....
Temporary absence from residence within 30 days prior to illness:
.....
Has patient associated within 30 days with a person in febrile stage? .....
.....
Has patient associated with a suspected case of the disease? .....
Has patient associated with persons who have had this disease within 6 months? ..... 1 year? ..... 2 years? ..... 3 years? ..... 4 years? ..... 5 years? .....
Has patient associated with a person who has been in contact with a patient in the febrile stage of this disease? .....
Has patient worked (washing) for a person who has been ill with this disease? .....
Number of occupants of this house: ..... Ages: .....
Number of occupants who have had this disease: ..... When? .....
.....
Roomers or visitors to the house within 30 days prior to illness of patient ..... Have they ever had this disease? .....
When? .....
Has the disease been in the home of servants within 30 days prior to onset of illness of patient? .....
House screened? ..... Toilet facilities .....
How far distant? .....
Sanitary conditions: .....
Source of milk: .....
Source of water: .....
Is this patient a contact case? .....

.....,
Health Officer.

APPENDIX IV

NEW YORK STATE DEPARTMENT OF HEALTH
ALBANY

Notice to the Health Officers of ....., ..., *Counties*

Pursuant to the provisions of section 4-a of the Public Health Law a Conference of the health officers of each of the counties of ..... will be held as noted below.

These Conferences are for the instruction of health officers in the enforcement of the new regulations of the State Sanitary Code concerning milk and cream and each will include a practical talk on the new regulations, a question box concerning their enforcement, an exhibition of lantern slides and motion pictures of insanitary and sanitary methods of milk production, a luncheon and Round Table Conference on "Efficiency in Public Health Work" and the visitation and scoring of two nearby dairies by all the health officers present.

Each Health Officer is requested to thoroughly familiarize himself with the regulations as amended, the application blanks for permits, the score cards, the permit blanks and the recent bulletins of the Department, as well as with regulations 8 and 9 of chapter 2 of the Sanitary Code, and to bring a copy of the regulations and two blank score cards for use at the Conference.

Questions on all doubtful points are desired and should be submitted by mail to Dr. ..... at ..... at once or in person just before any meeting.

Through the kindness of Hon. Calvin J. Huson, State Commissioner of Agriculture, a representative of his Department will be present at each Conference to explain any matters connected with the scoring of dairies by that Department concerning the sections of the Agricultural Law relating to milk production.

Digitized by Google

Each Conference will begin promptly at 11 A. M., that for ..... county being held in ....., Monday, November 30; that for ..... county in the ....., Wednesday, December 2, and that for ..... county in the ....., Friday, December 4.

Luncheon at ..... will be at the ..... House, that at ..... at the ..... Inn, and that at ..... at the ..... House.

THE PROGRAM OF EACH CONFERENCE FOLLOWS:

11 to 11:30 A. M.— The regulations concerning milk and cream.

11:30 A. M. to 12 M.— Question box.

12 M. to 12:45 P. M.— Exhibition of lantern slides and motion pictures on milk production.

1 to 2 P. M.— "Dutch" lunch and round table conference on "Efficiency in Public Health Work."

2 to 4 P. M.— Demonstrations of scoring at nearby dairies.

Milk producers and dealers, members of health boards, physicians and other adults interested in the production of clean milk will be welcome from 12 M. to 12:45 P. M. at the exhibition of lantern slides and motion pictures on milk production but the other sessions must of necessity be limited to health officers only.

In order to successfully meet the criticism of some dairymen, that health officers do not know how clean milk may be produced, and that the methods of scoring the dairies and grading the milk and cream may be thoroughly understood by all, every health officer is urged to attend the Conference in his county if possible, or if not, that he certainly attend one of the other Conferences. Article 7 of section 21-b of the Public Health Law makes it the duty of every health officer to attend and his actual and reasonable expenses must be paid by the municipality he represents.

Plans will also be outlined at the Conferences for the milk producers and dealers supplying each municipality to meet the local health officer and subsequent meetings of milk consumers at which the new system of grading milk and cream may be explained.

Signed ....., M. D.,
Sanitary Supervisor, District .

....., November 24, 1914

APPENDIX V

SANITARY SURVEY

Date.....

Town or village..... County..... Dist.....

Population.....

Births in 1914..... Stillbirths in 1914.....

Birth rate, 1913..... Birth rate, 1914.....

Deaths in 1914 (not including stillbirths).....

Death rate, 1913..... Death rate, 1914.....

Infantile death rate { No. of deaths under 1 year x 1000 divided by number of births for 1 year } =.....

Marriages in 1914.....

Digitized by Google

COMMUNICABLE DISEASES

	No. cases	No. deaths
Anthrax		
Chickenpox		
Cholera		
Diphtheria		
Dysentery		
Epidemic meningitis		
Epidemic or septic sore throat		
German measles		
Glanders		
Measles		
Mumps		
Ophthalmia neonatorum		
Paratyphoid		
Plague		
Poliomyelitis		
Puerperal septicaemia		
Rabies (hydrophobia)		
Scarlet fever		
Smallpox		
Trachoma		
*Tuberculosis		
Typhoid fever		
Typhus		
Whooping cough		

* Is Tuberculosis Law enforced? .....
Is tuberculosis adequately reported? .....

OTHER CAUSES OF DEATH

	No. deaths
Pneumonia	
Apoplexy	
Nephritis, chronic	
Nephritis, acute	
*	

* Write in other causes of death

Number of deaths under 1 year .....
Number of deaths between 1 and 10 .....
Number of deaths between 10 and 20 .....
Number of deaths between 20 and 30 .....
Number of deaths between 30 and 40 .....
Number of deaths between 40 and 50 .....
Number of deaths between 50 and 60 .....
Number of deaths between 60 and 70 .....
Number of deaths between 70 and 80 .....
Number of deaths between 80 and 90 .....
Number of deaths over 90 .....
Number of successful vaccinations in your district .....
Number of complaints received .....
Number of nuisances abated .....
Number of fumigations .....
Number of disinfections .....

Digitized by Google

Milk Supply:
Number of dealers..... Number of dairies..... Number scored ..... Number permits issued.....

Water Supply:
Municipal..... Private Co..... Individual.....
Source..... Character..... When surveyed or analyzed.....

Sewage Disposal:
Privy or cesspool..... Water carriage to..... Disposal plant.....

Has our Engineering Division made any recommendations regarding water supplies or sewage disposal that have not been accepted?

Complaints:
Number received..... Number investigated..... Number abated.....

Labor Camps:
Number in district..... Number of camps visited..... Number of permits issued.....
Name of owner, manager or foreman..... Location.....
Name of owner, manager or foreman..... Location.....
Name of owner, manager or foreman..... Location.....
Name of owner, manager or foreman..... Location.....
(Report others on the reverse of this sheet.)

Garbage Disposal:
Method .....
Municipal..... Private corporation..... Private.....

Midwives:
Number in district..... How are they regulated?.....
Do they report their births?.....
Are they licensed?..... If so, under what qualifications? .....
What methods are used to control?.....
What are the conditions of their practice?.....

Insanity:
Number of cases committed.....

Deaths:
Number of deaths without medical attendance, investigated.....

Schools and Public Buildings:
Number inspected..... Number having insanitary closets.....

Has anything been done in your district preparatory to the enforcement of Chapter VII of the Sanitary Code containing Regulations concerning:
(*a*) Spitting .....
(*b*) The common towel.....
(*c*) Common drinking cups.....
*(*d*) Barber shops .....

Meetings:
Number held by board..... Number of conferences on health matters attended..... Number of public lectures on health topics held in the community during the year..... Approximate number of hours devoted to the work of your municipality during the year .....

* Regulations 4 and 5 must be posted in barber shops.

Digitized by Google

COUNTY TUBERCULOSIS HOSPITALS IN NEW YORK STATE

Digitized by Google

Digitized by Google

A SURVEY OF THE COUNTY TUBERCULOSIS HOSPITALS IN NEW YORK STATE

ALBANY, N. Y., *February* 1, 1915

Dr. HERMANN M. BIGGS, *State Commissioner of Health, Albany, N. Y.:*

DEAR SIR.— Pursuant to your instructions of June 16, 1914, and in compliance with section 49-d of the County Law and section 4-c of the Public Health Law, I have visited the 12 tuberculosis hospitals established under the County Hospital Law, in addition to one operating under a special act and one municipal tuberculosis hospital; the latter two are in Oneida county and in Elmira city, the remainder in the counties of Broome (Mountain Sanatorium); Fulton (Summit View Sanatorium); Monroe (Iola Sanatorium); Montgomery; Ontario (Oak Mount Sanatorium); Orange (Odell Memorial Hospital); Oswego; Rensselaer (Lake View Sanatorium); Saratoga (Homestead Sanatorium); Schenectady (Glen Ridge Sanatorium); Tompkins (Edward Meany Sanatorium); Ulster.

The twelve county tuberculosis hospitals are today's visible evidence of several years of intensive effort to provide hospital care for tuberculous patients. Only a few years ago, there were in this State, very limited facilities for such treatment, and many counties then, as today, had none whatever. The number of communities in the latter class, however, is annually diminishing, and the time seems near when no uncared-for tuberculosis will be an accomplished fact.

The promising work of the local hospitals already established may be held to amply justify the efforts being made to bring about the founding of similar institutions in other counties. Although those in operation are still too small and few in number to have achieved any extensive influence in controlling the disease, which can result only from the segregation of a very large number of patients, yet there is already evident a most important and practical accomplishment, namely, their educational influence. That

Digitized by Google

this has been widespread and profound is obvious from the constant demand everywhere by patients and their physicians for admittance to them. As a result of this, all the hospitals could have used more room than they had and several have already increased their bed capacities; others have found it necessary to increase their administrative departments; one will abandon its present site and buildings for a new location and larger buildings; and several are, at this writing, undertaking or completing improvements. In addition to these, many of the recommendations resulting from this survey have been carried into effect, or plans for doing so are under way.

There has been organized the "Association of Local Tuberculosis Hospital Superintendents and Managers," a committee of which is now engaged with the Department in formulating standards and plans for promoting the efficiency of the hospitals generally.

As their fundamental purpose is to control the disease of segregation, they are distinctly public health agencies. It was, therefore, the purpose of this survey to make not merely a perfunctory inspection to comply with the law, but to give the inquiry a broad scope to ascertain their general status and wherein, if possible, their efficiency might be improved. It was desired to cooperate toward this end with those in charge.

The many defects disclosed by the investigation were, in the main, common to all of the institutions but one, and were due to various factors. In most instances, the hospitals were obliged to begin handicapped by insufficient funds and inadequate buildings. The responsibility for their organization and management often devolved upon earnest and interested citizens, who had had no previous experience in such work.

The positions for nurses and doctors were not always attractive and many, who sought or accepted them, had no desire to remain for any considerable period or to devote their entire time to the work; also few trained or experienced institutional workers were available.

Certain facts concerning the 12 hospitals operating under the County Hospital Law are presented below in summarized form,—these being abstracted from detailed reports which have been submitted from time to time on each hospital.

Digitized by Google

Statistics

The oldest of these hospitals was opened under county management in August, 1909, and the newest in December, 1914, about two or three being opened each year since 1909.

Nine hospitals had names which did not indicate their county character, the remaining 3 were known as county tuberculosis hospitals.

The bed capacity for patients varied from 16 to 150; the total being 473, and the average 39. Although several institutions had a few vacant beds at the time of inspection, there was present a total of 431 patients; about half had waiting lists, and nearly all have had waiting lists from time to time.

Only one had special facilities for the care of children under 16 years of age but practically all received them from time to time, and 8 contained children at the time of inspection, the number in each varying from 1 to 25,— the total being 47 or about 10 per cent. of the total population of the 12 hospitals. Very few of the children were actively tuberculous.

The proportion of male to female patients averaged 1.5 men to one woman.

About 1,500 patients were treated in the 12 hospitals during the fiscal year.

The total deaths were 292, or about one death to every 5 patients admitted.

The average length of stay in four hospitals, these being among the best, was four months.

The total number of employes was 150, or an average of one employe to 2.5 patients.

All of the hospitals had medical superintendents,— residing at the hospital in four instances only.

The superintendents' salaries varied from $75 per month without maintenance, for part time services, to $250 a month with maintenance, the average, regardless of maintenance, being $123.58.

Eleven hospitals had head nurses who acted also as matrons, their salaries varying from $50 per month to $83.33 per month, the average being about $60.

Digitized by Google

The annual appropriations for maintenance varied from $8,000 to $70,000, the total for 11 hospitals $217,342.50; the average being $483 per patient, or $1.32 per day per patient. The daily per capita cost of maintenance varied from $1.19 to $1.875, the average in 10 hospitals being $1.44 per day. In 9 hospitals the average daily per capita cost of maintenance was $1.44, and the per capita appropriation averaged $1.31.

The total monthly pay-rolls varied from $267.33 to $2,155.00, the total for 11 hospitals being $77,352 annually, or about 35 per cent. of their total annual appropriations.

Nine institutions had full pay or part pay patients, or both, the total number being about 70. Thirty-two per cent. of the patients of Iola Sanatorium contributed toward their maintenance,—the revenue from this source during its last fiscal year being $2,762.41. The annual contribution for maintenance from patients in the entire 12 hospitals was about $9,000.

Location

The distances of the hospitals from centers of population varied from locations within city limits in four instances to 17 miles; one being over 17 miles from a steam railroad station, and over 10 miles from an electric railroad. However, 5 were located from a half mile to 4½ miles from a center of population, and one was 9 miles from a city but about one mile from a railroad station.

The sites varied in size from less than one acre to 400 acres, the average being about 84 acres. Eight institutions cultivated part of their land, the planted areas varying in size from a small garden patch to over 40 acres, the average being about 11 acres. One had a 10-acre orchard. Practically all of the sites had trees upon them.

The altitude above sea level varied from 200 to 1,450 feet, the average being about 808 feet.

Buildings and equipment

The buildings of all but one were of the pavilion type, the exception being a structure of the block type. The smaller institutions were housed in single frame buildings containing all the ad-

Digitized by Google

ministrative, patients', and employes' quarters; the larger were developing schemes which included separate administration and employes' quarters, and various structures for patients, such as lean-tos, shacks, tents, and infirmary buildings.

Practically all the institutions had sufficient porch space for the open air treatment of all ambulant patients, but not all had adequate facilities for the open air treatment of bed patients.

The equipment in many was not of good quality,— but also the proper care of equipment was not always understood.

The dining rooms in several institutions were capable of improvement in both equipment and appearance.

Practically all had some facilities for recreation, such as ordinary games, books, magazines, newspapers, and musical instruments. Practically each one had a piano or phonograph, or both, and several had pool or billiard tables. Nearly all had one or more rooms which could be used by patients for visiting, reading and writing, etc., but only a few had rooms available for this purpose alone. Practically none had any provision for outdoor amusements,—such as swings, summer houses, lawn games, etc.

Nearly all the hospitals, with one exception, were deficient in laboratory and ear, nose and throat appliances,— several having none at all.

Eight had their own laundries, but some were insufficiently equipped.

Several had endeavored to improve the appearance of the grounds immediately surrounding their buildings, by constructing driveways, paths, flower beds, etc.

Eight were lighted by electricity, one by natural gas, one by acetylene gas, one uses both gas and electricity, and one kerosene oil lamps.

Six were heated by steam only, two by hot water systems, one by both steam and gas, one by hot air, one by steam and hot air, and one by coal stoves.

Four obtained their water supplies from enclosed springs, four from city supplies, two from creeks, and two from wells.

For sewage disposal two had cesspools, three had septic tanks, three had filter beds, two had septic tanks with subsoil drains, and two used city sewers.

Digitized by Google

Fire protection

The largest hospital had a private fire department, in addition to fire rules, fire drill, and auxiliary fire appliances and safeguards. Also one of the small hospitals practiced a fire drill monthly. All were equipped with various ordinary fire appliances, such as dry powder and chemical hand extinguishers. A few had outside stand pipes or hydrants, or both, and fire hose. In only one hospital had any serious attention been given to the proper safeguarding of the common fire hazards and the instalment of suitable fire applances.

General supervision

Each hospital had a board of managers of five members. Each board met monthly, in most instances at the hospital, and the superintendent, acting as secretary, kept the minutes of the meetings. A few of the boards were subdivided into committees for more efficient oversight of their institutions.

Organization and management

Only one institution had formulated rules defining the duties and responsibilities of all the employes as well as the patients.

A few had visiting or consulting medical staffs, or both.

There was an average of one physician to every thirty-three patients.

All the hospitals but one supplied printed forms for applications for admission.

Two employed women agents for field work.

The purchasing in all except two was done by the superintendents, the exceptions being the counties in which there are county purchasing agents.

All of the institutions had systems of records containing data on incomes and expenditures. These varied considerably with regard to their arrangement, scope, and details. Only a few recorded their expenditures to correspond with the divisions of their budgets. Only one had an accurate method of keeping the daily census, and accurate methods for calculating per capita costs.

Accurate and reliable data regarding the conditions of patients

Digitized by Google

upon admission and discharge were difficult to obtain, and in several institutions no records were made of such phases of their work. In only two instances was there any effort to employ the Turban classification or its modifications, and in several hospitals the classification was not understood.

Only half of the institutions made any effort to follow up patients who had left.

Medical care of patients

In practically all the hospitals patients were examined soon after admission and again before leaving. Examinations after admission averaged about one monthly.

The laboratory work had been inadequately developed in most instances, and consisted chiefly of sputum examinations. These were done in some by the superintendents themselves, and for others by public laboratories.

In most of the institutions the ear, nose and throat were given but scant attention. No statistics were available regarding laryngeal conditions except in two hospitals. In one hospital there was adequate nose and throat equipment, and in two patients were given systematic throat examinations, and treatments if necessary, by physicians having special skill.

Little major surgical work had been necessary,— but in most cases there was sufficient equipment for minor surgical work.

Tuberculin and drugs were not used for curative purposes in any instances. Only a few of the hospitals had definite rules or equipment for the emergency treatment of hemorrhages.

Temperatures were taken in practically all cases by nurses.

In several hospitals exercise was definitely planned and directed for patients individually by the superintendents.

In only one hospital was there a complete medical record system carefully kept up. In the others the records comprised only the essential data regarding history, physical examinations, temperature, clinical treatments and weights, but in several there were other forms which were not used.

In only one hospital was special attention given to patients' teeth. This same institution provided school work for its children.

In no hospital was work incorporated in the patients' cure

Digitized by Google

scheme, although in several, patients were required to do their own housekeeping, such as making beds, cleaning room, etc. The superintendents generally were of the opinion that very few of their patients were capable of doing any work, and that strict enforcement of work rules would be difficult, if not impossible.

Nursing management in many instances was sadly deficient. Charts kept by nurses were often both untidy in appearance and carelessly kept. The details of the nursing care of bed patients were usually neglected,— such as attention to patient's hair, food trays, condition of beds, appearance of rooms, cleanliness of bedside tables, and matters concerning the personal comfort of patients.

In many instances the nurses obviously did not understand the institutional management of the tuberculous patient.

Two or three hospitals had patients who were committed under the Tuberculosis Law. Their experience in this matter had been limited, however, and no conclusions were possible except that legal commitment was successful for restraining certain individuals.

Food

One hospital obtained all its milk from its own tuberculin tested cows, and one part of its milk from its own cows. All of the others obtained their milk from local dealers, whose dairies in most instances were under a city health officer's supervision.

Nearly all the institutions kept a permanent record of their daily menus. However, in many instances both the variety and quality of the food could have been much improved.

In no instance was any food requiring preparation prepared outside the institution.

Sanitation

In all the hospitals the patients were supplied with the usual sputum cups and cup holders, paper napkins, gauze, etc., which articles were frequently renewed and the used materials burned.

In practically all the institutions there were leaflets of rules and regulations for patients and some effort was made to enforce the rules regarding precautions.

The necessity of training patients in regard to precautions was

Digitized by Google

not generally understood. Evidences of the lack of such training were observable in many instances.

Although all of the hospitals visited were comparatively clean, yet in only three was effort made to maintain such scrupulous cleanliness as should characterize a hospital or sanatorium.

Recommendations

Upon the facts ascertained by the investigation, as indicated above, are based the following recommendations:

I SITE

1 That the Department publish a guide for use by those selecting hospital sites, describing the features of a good site and those of a poor one.

2 That the Department furnish hints on water supply and sewage disposal for hospitals in rural districts.

II BUILDINGS

1 That the Department provide, as proposed by Dr. Biggs, model plans for small tuberculosis hospitals, designed to be developed into larger institutions with a memorandum on features which will be required in all plans submitted and such as will be disapproved if submitted.

2 That special efforts be made by the State to provide facilities for the care of children, aside from the local hospitals.

III EQUIPMENT

1 That the Department provide a memorandum on model equipment for future small tuberculosis hospitals.

2 Adequate simple apparatus for the examination and treatment of ear, nose and throat.

3 Adequate simple apparatus for necessary laboratory work.

4 Adequate equipment for thorough medical study of patients.

5 That patients be furnished with necessary equipment for open air treatment, viz., blankets, hot water bags, warm clothing, etc.

6 Adequate facilities for fumigation and incineration of sputum cups, and other infected articles.

Digitized by Google

7 Facilities for recreation and amusement, such as books magazines, newspapers, indoor and outdoor games, musical instruments, etc.

8 Adequate laundry equipment.

9 Adequate kitchen equipment.

10 Adequate fire prevention and protection as outlined in the Department's "Memorandum on Fire Hazards and Fire Safeguards in Tuberculosis Hospitals."

IV ORGANIZATION

1 Efficient resident medical and nursing staffs, consisting, so far as possible, of physicians and nurses having special training or experience in the institutional management of tuberculosis.

2 Competent consulting staffs of specialists; especially for eye, ear, nose and throat, and dental work. That regular attendance be essential to continued tenure of office.

3 A community agent for each hospital.

4 An experienced and efficient housekeeper to supervise help, laundry, and kitchen, in addition to other duties.

5 That plans be formulated for effective cooperation between each hospital and other public and private medical or charitable agencies, as outlined in Supplement "A" below.

V MANAGEMENT

A Medical

1 Thorough medical examination of each patient upon admission, followed by through reexaminations at regular intervals, preferably once monthly, and sufficiently often to enable the physicians to be constantly informed as to the patient's condition.

2 Thorough examination of ear, nose and throat of each patient upon admission and at certain intervals subsequently, with special attention to the larynx, by visiting specialists.

3 Careful examinations of sputum and urine in all cases upon admission, with reexaminations, at certain intervals, and before discharge.

4 Accurate and comprehensive medical records of all patients, to include full data on all physical and laboratory examinations, special treatments, tuberculin if used, special diets, bedside notes

Digitized by Google

on bed patients; and clinical notes on symptoms, exercise and work, in addition to other general information.

5 That a regime be prescribed for each patient, based on a careful study of the patient's condition and needs.

6 That some form of work be incorporated in the regime for each patient, if sufficiently strong, as a part of his treatment.

7 Thorough training of each patient in personal hygiene and prophylactic measures, especially as to care of sputum.

8 That in addition to the open air treatment, efficient and scientific treatment be given for other diseases if they exist, for complications, and for distressing symptoms.

B Nursing

1 Oversight of all patients, with special attention to the training of patients in hygiene and prophylaxis, and the regime prescribed by the physicians.

2 Careful, accurate and complete nursing records, constituting part of records described in paragraph 4 above.

3 Special attention to the details of nursing care and comfort of bed patients.

C Miscellaneous

DIET

1 Attractive dining rooms, containing small tables.

2 Special attention to the food — a dietary carefully planned, the food well prepared and nicely served.

3 Attractively prepared trays for bed patients; the food individually prescribed — nurses to assist those patients using trays.

SOCIAL LIFE

4 Effective discipline; few and simple rules; cultivation of a spirit of kindliness and sympathy by all concerned.

5 Rules with regard to visiting; arrangement for visiting of patients on certain Sundays, holidays, and evenings.

6 Provision of entertainments and religious services.

7 Assignment of patients to hospital quarters with regard to their temperament, condition and compatibility with other patients.

Digitized by Google

SPUTUM

8 Rigid precautions in the disposal of sputum and thorough disinfection and cleansing of infected material.

HOUSEKEEPING

9 Attention to details of housekeeping, especially in the matter of cleanliness.

BY-LAWS

10 By-laws and regulations defining the duties of the managers and of each employe, and rules prescribing the operation of the hospital.

UNIFORM RECORDS

11 A scheme of standard, minimum, uniform business and medical records, cost system, and formulas for computing per capita costs.

BULLETIN

12 That the Department, from time to time, issue a bulletin to the hospital managers and superintendents, to convey to them hospital news and hints on management, etc., as outlined in Supplement "B" below; this to be a feature of a scheme of friendly oversight by the Department.

Supplement "A"— Cooperation

The hospital should correlate its work with the efforts of all other responsible agencies concerned in the prevention and relief of tuberculosis; and especially with those which find the patient and those which must care for him and his dependents when he is physically disabled. In the communities where there are tuberculosis clinics or visiting nurses, the majority of hospital patients are discovered by these agencies. Hospitals should be in close touch with their activities, and reciprocal efforts would be not only mutually advantageous but operate directly for the more effective care of the patient himself and his family. There should be a definite policy and well defined functions for each of these agencies so that their efforts will be properly coordinated — so there will be efficient team work.

In almost every community, even if very small, there are one or more individuals who could do work of service to the hospital,

Digitized by Google

and their interest and assistance might be profitably enlisted. Such cooperation might also serve the purpose, in some instances, of demonstrating the need for a full time field agent. After-care of the exhospital patient receives at present but scant attention. The opportunities for close cooperation between the hospital and other private and public agencies are numerous, and such cooperation is frequently of vital importance in the care of the patient and his family. The hospital superintendents and managers do not always realize that the problem concerns not only the individual but often also his family, and that the hospital is really a link in a chain of social agencies which should cooperate, and coordinate their efforts, to gain a full measure of ultimate success.

The value of the health officer does not seem to be fully appreciated. In this matter the hospital is in a favorable position, for if the local officers are delinquent it can resort to the law and to the State authorities. At present the relations between the local health officers and the hospitals are most perfunctory and insufficient.

In some counties a joint committee of the hospital, clinic, health department, nursing association, relief societies, and other agencies, might be a practicable and efficient means of coordination.

Some method for keeping the boards of supervisors in closer touch with the efforts of the hospitals might be valuable — as in Oswego county, where a special auditing committee of three supervisors meets monthly with the board of managers.

The county tuberculosis hospitals have a rare opportunity to make themselves the centers of the tuberculosis work in their communities — a position which it would seem they should logically hold and develop. They can be more influential than any means yet devised for the control of the disease in rural districts.

Supplement "B"— Bulletin

A circular letter or bulletin issued from time to time to the managers and superintendents by the Department could be a practical medium for conveying hints and news on hospital work.

There are many subjects which could be taken up by this means,

Digitized by Google

for instance, efficiency and economy in kitchen, laundry and engine room; buying of supplies, especially food; per capita costs; equipment; prices and markets; daily menu and special diets; preparation of foods; storing of foods; training of patients; work and recreation for patients; religious services and entertainments; details of nursing bed patients; special medical examinations and treatments; school work for children; and hints on co-operation.

In addition to these matters the bulletin could serve as a means of transmitting concisely, authoritative information regarding current events of importance in the hospital, laboratory and social service fields.

Respectfully submitted,

(Signed) OTTO R. EICHEL,

Sanitary Supervisor

Digitized by Google

DIVISION OF LABORATORIES AND RESEARCH

Digitized by Google

Digitized by Google

DIVISION OF LABORATORIES AND RESEARCH

HERMANN M. BIGGS, M.D., *State Commissioner of Health, Albany, N. Y.:*

DEAR SIR.— I have the honor of submitting the following report of the Division of Laboratories and Research for the year 1914.

February 9th, following the resignation of Dr. William S. Magill, on taking charge of the laboratory I found that the work was carried on under the greatest difficulties. Conditions were not even sanitary. The laboratory rooms in the buildings on Yates street were small and crowded. Only a part of the building was arranged for work, while the remainder was used for storage and not heated, and without plumbing for water or gas. The equipment, for the most part of poor quality, was badly in need of repair and lacked many essentials. The work had outgrown the quarters assigned to it. It was only owing to the constant vigilance and assiduous care of the laboratory workers that the distribution of antitoxin was safeguarded against the accidents of contamination.

STRUCTURAL CHANGES

After the removal of the horses to the farm in July, the laboratory was rearranged and greatly enlarged by alterations in the stable and storage rooms. In the former director's office an excellent reference library has been installed. To this room the laboratory workers retire and consult recognized authorities on all phases of their work without loss of time. This has contributed more than anything else to the efficiency of the staff in their investigations and research. The director has moved his private office to the smaller room formerly used as the general office of the laboratory. A new office has been built in the stable, where the office staff makes out all the reports and files the records of the laboratory. The diagnostic laboratory has also been moved into new rooms which were especially fitted for this work. The old storeroom, spacious and well-lighted as compared with the other

Digitized by Google

laboratory rooms, has been equipped for the preparation of media and the sterilization of laboratory supplies, by installing new apparatus for this purpose. The old equipment which was still serviceable has been repaired and new equipment installed. New heating, lighting and plumbing systems, and a garbage burner were necessary on account of these changes. The space available for the laboratory work has thus been more than doubled. The unsatisfactory conditions have been alleviated so far as it is possible to do this in the present buildings.

REORGANIZATION OF THE LABORATORY WORK

The work of the laboratory has undergone complete revision and reorganization. This was found to be especially necessary in the diagnostic work and in the preparation of antitoxin, but changes were also made in the conditions under which samples of water were examined.

Examination of Water Supplies

Formerly samples of water were collected by untrained employees and these were examined in large numbers without any definite knowledge of the conditions present at the sources of the waters. All this has been discontinued and field inspections are required whenever samples are collected. The sanitary supervisors and health officers thus have an accurate knowledge of the conditions present at the source of the water supplies of the communities in their districts. Whenever possible the Division of Sanitary Engineering undertakes the complete field investigation of water supplies and in such instances the laboratory report on the bacterial and chemical examination of the samples is fully interpreted by them. As a result of this change the amount of work done has been less than that of the year previous, but the significance of it has been greatly enhanced.

Examination of Specimens for Diagnosis

Until this year the diagnosis of specimens from cases of diseases other than diphtheria, tuberculosis and typhoid fever were rarely attempted and the sending of specimens by physicians direct to the laboratory was not encouraged. All this work was done

Digitized by Google

through the health officers who received the reports and transmitted them to the physicians. The collection of diagnostic specimens from the mail was made only once daily. Furthermore, the health officers frequently failed to keep outfits and supplies on hand, so that they often had to telegraph for them. The delay in reporting the diagnoses thus robbed the work of much of its usefulness. Many physicians and health officers ceased to make use of the laboratory on this account alone.

Methods to Improve Service

To remedy these faults in the diagnostic service to physicians, specimens have been collected from the mail not only in the morning as heretofore, but also twice during the night. Thus physicians who mail their specimens early in the morning now receive reports by telegram in from twenty-four to thirty-six hours, or by mail in forty-eight hours, even from places at a considerable distance. A considerable number of specimens are now reported the day they are received at the laboratory; in less than fifteen hours. Duplicate reports have been sent to the physician and to the health officer. Telegraphic reports have been sent as a routine procedure on all primary cases of diphtheria which have not been diagnosed accurately or received antitoxin. Thus, at the present time, the only avoidable delay in reporting on diphtheria cultures is that caused by health officers and physicians failing to mail them early in the morning.

Test of Virulence in Cases of Diphtheria Carriers

Frequently when diphtheria carriers are quarantined tests of the virulence of the organisms have been made. It has thus been possible to distinguish accurately organisms which resemble diphtheria bacilli but which are not virulent, and so relieve many of these carriers of the hardship of an unduly prolonged quarantine.

Establishment of Supply Stations

The laboratory supplies of health officers have been inspected by the sanitary supervisors, so that they now have outfits on hand. Supply stations have been established in larger communities and also central depots in some of the county laboratories where the

Digitized by Google

supplies are accessible to larger districts. The distribution of diagnostic outfits during the last quarter of the year was more than four times that of any previous quarter yearly period. Physicians located anywhere in the State ought now to be able to obtain without delay oufits for the laboratory diagnosis.

Establishment of Branch Laboratories

In order that districts of the State inaccessible to Albany by mail, such for instance as Long Island, may be served promptly, a branch laboratory in New York City has been established, and every effort has been made to encourage the development of county and municipal laboratories throughout the State. With this object in view the Director of the Laboratory has visited Utica, Syracuse, Auburn, Canandaigua, Rochester, Geneseo, Buffalo, Ithaca, Corning, Elmira, Binghamton, Tuxedo, Patchogue and New York City. With all these laboratories, the laboratory of the Department at Albany is now in close touch, lending all the support possible in the circumstances.

Extension of the Diagnostic Work

The diagnostic work has also been greatly extended in scope. New outfits have been devised, assembled and distributed so that physicians, through health officers and supply stations, now have special outfits not only for diphtheria, tuberculosis, typhoid fever, but also for typhoid feces, malaria, gonorrhea, syphilis, and miscellaneous diseases for which three kinds are distributed to provide for the different specimens from other diseases.

Diagnosis of Venereal Diseases

The diagnosis of the venereal diseases by the Wassermann test has recently been established. No work which the laboratory has done since the distribution of antitoxin has been so generally and so deeply appreciated by physicians and health officers.

Detection of Typhoid Carriers

Similarly the examination of typhoid feces for the detection of carriers of this disease has been established three months and numerous expressions of appreciation for this work have already been received.

Digitized by Google

Increase in the Diagnostic Work

The diagnostic work has thus been developed within the year to the highest degree of efficiency. That all this was much needed and that physicians now realize the value of the service is already apparent. Within six months, while these changes were still in progress, the diagnostic work has grown threefold. In the last quarter of the year this work has amounted to more than three times that of any previous quarter year in the history of the laboratory.

Preparation of Antitoxin

The preparation and distribution of antitoxin required complete reorganization. The methods of preparing antitoxin were crude and carried on by inexperienced workers. The standardization of the antitoxin was incorrect; in some instances the error was found to be more than 30 per cent. Experienced workers have been placed in charge of this work, modern standard methods have been introduced and all the antitoxin is accurately tested as to its potency in units.

It was found also that health officers were not fully supplied with antitoxin and some had on hand only antitoxin several years old. Comparatively few were adequately supplied with tetanus antitoxin. If tetanus antitoxin is to be effective, it must be on hand and administered immediately. Accordingly during the last six months of the year as compared with the corresponding period of the previous year, 45 per cent. more diphtheria antitoxin was distributed and 240 per cent. more tetanus antitoxin.

Distribution of Typhoid Vaccine

During the year the laboratory has undertaken for the first time the preparation and distribution of typhoid vaccine which is an effective preventive against typhoid infection. There is already considerable demand for this preparation. The continued and general use of it will diminish materially the death rate from this disease throughout the State.

Distribution of New Ophthalmia Neonatorum Outfits

The outfits formerly used by the laboratory for the distribution of 1 per cent., silver nitrate solution had proved so utterly unsatisfactory that it was necessary to substitute an entirely new

Digitized by Google

outfit similar to that used by the New York City Department of Health. This has given universal satisfaction.

Special Investigations and Research

Special investigations and research contribute more than anything else to the maintenance of high standards of efficiency in all branches of the work. Although the staff has been occupied with the reorganization all groups of workers have undertaken special problems in research relating to the differentiation of the bacilli of the diphtheria group, the isolation of the typhoid bacillus from feces, the determination of dissolved oxygen in polluted waters, and, finally, studies of immunity in pneumonia and the serum therapy of this disease. Special investigations of water supplies in different parts of the State and of material sent to the laboratory from cases of meningitis, meat poisoning, cheese poisoning, and infection following vaccination, together with disinfection experiments, have been carried on in the laboratory during the year 1914. Some of these investigations have required considerable time to complete and others are still under way.

Increase in the Staff

In order to carry on this work the staff of the laboratory had to be increased by the appointment during the year of a physiological chemist, four assistant bacteriologists, three laboratory assistants, four stenographers, nine cleaners and eight laborers. None of these appointments was made to fill a vacancy occurring from resignation. The staff has thus been increased from a total of seventeen at the beginning of the year to forty-six.

Appropriations

This excessive demand upon the laboratory could not be foretold when estimates for the laboratory appropriations were made last year, so that these were totally inadequate to the present needs of the laboratory. The actual work done during this fiscal year beginning October 1, 1914, is three times that of any previous corresponding period. Nearly all the appropriations have been exhausted. Adequate appropriations for this work and a new building fully equipped for laboratory work are urgently needed.

Respectfully submitted,

(Signed) AUGUSTUS B. WADSWORTH,

Director.

Digitized by Google

APPENDIX

In this appendix the records of the distribution of antitoxin, diagnostic examinations and water analyses made during the year 1914 and previous years, together with a list of the special investigations of the year, are tabulated and abstracted.

Digitized by Google

DISTRIBUTION OF ANTITOXIN AND RECORD OF ITS ADMINISTRATION

YEAR	Total number of packages computed to 1,500 units each	Number of syringes	Average number of units per c. c.	Total number of units distributed	Total reports of cases treated	Total reports of recoveries	Number of units used	Total deaths	Total number of units used	Other diseases treated	Number of units used	Number persons immunized	Number units used
DIPHTHERIA ANTITOXIN													
1902	6,552	[3]	300	No records.									
1903	14,121	[3]	325										
1904	16,374	[3]	375										
1905	16,308	[3]	350										
1906	17,794	[3]	350										
1907	23,629	[3]	450										
1908	25,469	[3]	350										
1909	24,429	[1]	370	36,643,500	1,823	1,235	10,000,000	134	1,250,000	42	618,750	492	2,000,000
1910	36,916	[4]	530	55,374,000	1,863	1,700	11,700,000	163	1,800,000	35	700,000	3,920	5,000,000
1911	43,709	[4]	550	65,563,500	2,566	2,354	15,813,650	212	2,504,000	52	174,500	3,921	9,530,350
1912	40,745	[4]	550	61,117,500	2,535	2,345	18,779,700	190	2,216,500	150	450,000	5,024	7,574,095
1913	44,426	[4]	600	66,639,000	1,943	1,766	11,892,600	177	1,719,400	.....	474,000	3,055	6,134,400
1914	52,644	17,154	[2] 552	78,966,000	2,149	1,982	12,693,950	167	2,012,100	285	1,473,500	1,944	3,721,950
TETANUS ANTITOXIN													
1909	4,246	.....	[4]	6,369,500	21	5	.....	10	All cases 687,000	.....	.....	[5]	819,950
1910	9,655	.....	[4]	14,482,500	14	5	.....	9	1,950,500	.....	.....	[5]	326,400
1911	8,095	.....	[4]	12,142,500	23	7	.....	16	1,474,000	.....	.....	[5]	587,400
1912	8,508	.....	[4]	12,762,000	31	9	.....	22	1,413,000	.....	.....	[5]	791,450
1913	7,813	.....	[4]	11,719,500	25	8	.....	17	1,328,000	.....	.....	[5]	740,400
1914	16,050	.....	[4]	24,075,000	15	2	.....	13	153,500	.....	.....	699	1,762,200

[1] Syringes used from this date.
[2] All antitoxin accurately standardised.
[3] No syringes distributed.
[4] No record.
[5] Records incomplete.

Digitized by Google

DIAGNOSTIC EXAMINATIONS

YEAR	Diphtheria				Tuberculosis			Typhoid Fever			Other Diseases
	Unsatisfactory	Negative	Positive	Total	Negative	Positive	Total	Negative	Positive	Total	Total
1908	.....	735	741	1,597	498	339	842	282	147	499	.....
1909	.....	1,024	755	1,971	1,245	526	1,766	179	92	358	.....
1910	.....	4,580	1,822	6,402	1,277	584	1,861	378	254	632	.....
1911	.....	5,573	1,761	7,334	1,755	658	2,413	441	288	729	.....
1912	.....	4,298	1,322	5,620	1,966	793	2,759	552	297	849	.....
1913	.....	6,127	2,909	9,036	2,192	691	2,883	665	350	1,015	.....
1914	917	8,704	4,242	13,863	2,318	875	3,193	896	435	1,271	91

Digitized by Google

WATER ANALYSES

	1908	1909	1910	1911	1912	1913	1914*
Bacterial	1,175	1,056	1,564	2,131	2,800	2,017	1,091
Chemical	626	646	1,097	1,850	2,400	2,507	703

* The decrease in the number of water analyses is due to the fact that careful field inspections on all samples of water sent to the laboratory for examination were required for the first time.

Digitized by Google

ANALYTICAL DATA RESULTING FROM THE EXAMINATIONS OF SAMPLES OF WATER FROM PUBLIC WATER SUPPLIES AND SUPPLIES USED BY STATE INSTITUTIONS

RESULTS IN PARTS PER MILLION

CITY, TOWN OR VILLAGE	Source	Date	Color	Turbidity	Residue on evaporation	Mineral residue	Nitrogen as — Free ammonia	Nitrogen as — Albuminoid ammonia	Nitrogen as — Nitrites	Nitrogen as — Nitrates	Chlorine	Hardness, total	Alkalinity	Oxygen consumed	Bacteria per c.c.	B. Coli Type (+ = Present) (— = Absent) 10 c.c.	1 c.c.	1-10 c.c.	1-100 c.c.
Adams	Tap, public supply	5/19/14	Trace	Clear	163	151	.008	.014	.001	0.46	1.50	131.4	127.0	0.50	20	—	—	—	..
Afton	Tap, public supply	3/30/14	Trace	Clear	56	45	.008	.012	Trace	0.50	0.50	40.3	39.0	0.20	40	—	—	—	..
Albany	Raw Hudson river water	3/12/14	30	5	158	118	.164	.146	.007	0.20	5.75	75.7	69.0	20.40	15,000	....	+	+	+
Albany	Prefilter mixed effluents	3/12/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,800	....	+	+	+
Albany	Tap, Broadway and Clinton avenue, public supply	3/12/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	—	—	—	..
Albany	Raw Hudson river water	3/30/14	20	370	125	97	.078	.346	.008	0.44	1.87	51.4	48.0	14.40	3,400	....	+	+	+
Albany	Prefilter mixed effluents	3/30/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,100	+	+	—	..
Albany	Tap, 222 Hamilton street, public supply	3/30/14	17	12	108	90	.120	.092	.001	0.24	2.75	57.1	52.0	5.40	5,200	—	—	—	..
Albany	Tap, Clinton avenue and Broadway, public supply	3/30/14	10	12	112	93	.068	.068	.001	0.66	2.50	60.0	43.0	4.40	50	—	—	—	..
Albany	Tap, Clinton avenue and Broadway, public supply	3/31/14	10	6	100	80	.074	.072	.001	0.64	2.00	52.9	40.0	2.60	15	—	—	—	..
Albany	Tap, Clinton avenue, Bleecker distributing system	3/31/14	15	8	94	74	.084	.096	.001	0.46	2.25	58.6	47.0	3.50	40	—	—	—	..
Albany	Tap, Clinton avenue and Broadway	4/ 1/14	5	1	89	67	.048	.046	.001	0.50	2.00	58.6	33.0	1.70	10	—	—	—	..
Albany	Tap, Clinton avenue, Bleecker distributing system	4/ 1/14	5	2	90	66	.054	.056	.001	0.60	2.00	54.3	34.0	1.80	20	+	—	—	..
Albany	Raw Hudson river water	5/21/14	30	15	102	84	.040	.132	.005	0.16	2.75	64.3	59.0	7.40	6,600	....	+	+	+
Albany	Prefilter mixed effluents	5/21/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	150	+	+	—	..
Albany	Filtered water	5/21/14	5	Clear	99	84	.008	.046	Trace	0.20	2.50	67.1	42.0	2.50	6	—	—	—	..
Albion	Well used by Union school	1/22/14	5	5	639	525	.438	.032	.0375	1.50	64.00	364.5	279.0	1.10	80	—	—	—	..
Albion	Farm well, Western House of Refuge	1/23/14	2	8	1,277	1,154	.420	.012	.037	0.06	480.00	68.6	184.0	5.60	25	—	—	—	..
Albion	Tap at institution, Western House of Refuge	1/23/14	15	2	462	380	.008	.076	.004	0.90	16.50	300.0	167.0	5.30	275	+	—	—	..
Albion	Tap at institution, Western House of Refuge	2/11/14	30	10	501	406	.038	.230	.002	4.00	12.00	393.0	154.0	9.00	2,100	+	+	—	..
Albion	Farm well, Western House of Refuge	2/11/14	2	3	1,382	1,252	.820	.140	.075	0.02	650.00	201.5	186.0	6.30	15	—	—	—	..
Albion	Tap at institution, Western House of Refuge	7/ 2/14	15	Trace	351	276	.010	.118	Trace	1.40	13.75	221.5	172.0	4.60	40,000	+	+	—	..

Digitized by Google

ANALYTICAL RESULTS OF SAMPLES OF WATER — (*Continued*)

CITY, TOWN OR VILLAGE	Source	Date	Color	Turbidity	Residue on evaporation	Mineral residue	Nitrogen as — Free ammonia	Nitrogen as — Albuminoid ammonia	Nitrogen as — Nitrites	Nitrogen as — Nitrates	Chlorine	Hardness, total	Alkalinity	Oxygen consumed	Bacteria per c.c.	B. Coli Type (+ = Present) (— = Absent) 10 c.c.	1 c.c.	1-10 c.c.	1-100 c.c.
Albion	Farm well, Western House of Refuge	7/ 2/14	Trace	30	326	278	.006	.010	.003	1.80	38.00	156.0	151.0	0.50	17,500	—	—	—	..
Albion	Farm well, Western House of Refuge	8/27/14	Trace	Clear	324	245	.048	.004	.002	2.24	29.50	140.0	148.0	0.50	50	+	+	—	..
Albion	Tap at institution, Western House of Refuge	8/27/14	5	Clear	250	192	.004	.012	.002	1.40	14.63	137.2	135.0	3.00	450	+	+	—	..
Alexandria	Tap, public supply	5/11/14	Trace	Clear	86	69	.004	.001	.002	0.75	0.75	65.7	61.0	0.70	30	+	—	—	..
Alexandria Bay	Tap, public supply	1/23/14	Trace	Clear	139	121	.006	.048	Trace	0.12	7.87	111.4	95.0	2.10	55	—	—	—	..
Allegany	Tap, public supply	4/17/14	Trace	Clear	138	126	.012	.016	.001	1.00	1.50	102.8	110.0	0.50	2,899	—	—	—	..
Amenia	Tap, public supply	3/19/14	Trace	Clear	37	32	.028	.028	Trace	0.04	1.50	16.9	14.0	0.90	1,000	+	—	—	..
Amsterdam	Tap, public supply	5/ 9/14	45	Trace	32	22	.008	.100	Trace	0.20	0.25	18.20	7.0	8.80	160	+	—	—	..
Amsterdam	Tap, public supply	11/ 3/14	30	5	57	45	.008	.106	.001	0.10	1.25	40.30	*	8.50	130	+	—	—	..
Amsterdam	Tap, public supply, high pressure service	11/ 3/14	60	Trace	40	27	.006	.108	.001	0.10	0.75	26.00	5.0	8.40	250	—	—	—	..
Angola	Tap, public supply	4/13/14	12	7	96	84	.012	.056	.001	0.36	3.00	60.0	42.0	2.90	2,000	+	+	—	..
Antwerp	Tap, public supply	5/14/14	90	10	72	42	.026	.180	Trace	0.06	0.50	28.6	24.0	16.00	300	+	+	—	..
Arcade	Tap, public supply	4/20/14	Trace	Trace	150	126	.004	.022	.001	1.00	1.50	114.2	101.0	0.60	10	—	—	—	..
Ardsley	Pocantico Lake, raw	3/17/14	20	12	78	61	.106	.114	.002	0.40	3.75	32.5	20.0	4.50	41,500	+	+	+	..
Ardsley	Pocantico lake, purified	3/17/14	Trace	Clear	75	59	.106	.048	.003	0.40	4.12	35.1	15.0	2.00	10	—	—	—	..
Auburn	Tap, public supply	5/ 1/14	7	5	149	117	.008	.076	.003	0.90	1.50	105.8	99.0	2.00	300	—	—	—	..
Auburn	Tap in kitchen, Women's Prison, Auburn prison	5/28/14													8,000	—	—	—	..
Auburn	Tap in laundry building, Auburn prison	5/28/14	5	5	151	125	.016	.080	.001	0.30	2.00	97.2	94.0	1.80					..
Auburn	Tap in outside kitchen, Auburn prison	5/28/14	5	5	148	129	.012	.064	.001	0.66	2.25	102.8	95.0	1.90	25,000	—	—	—	..
Auburn	Tap in yard, Auburn prison	5/28/14													6,500	—	—	—	..
Ausable Forks	Intake at reservoir	10/28/14	25	Clear	66	49	.004	.040	.001	0.06	0.50	40.30	40.00	4.60	200	+	—	—	..
Ausable Forks	Palmer brook, dam above intake	10/28/14													230	+	—	—	..
Ausable Forks	Tap, rear Dr. March's house	10/28/14													300	+	—	—	..
Ausable Forks	Tap in village	10/28/14													250	+	—	—	..
Avoca	Tap, public supply	10/23/14	Trace	Clear	174	151	.002	.002	.001	1.00	2.13	148.6	137.0	0.60	50	—	—	—	..
Avoca	Internal reservoir	10/23/14													15	—	—	—	..
Avoca	Tap, public supply	10/23/14													25	—	—	—	..
Bainbridge	Tap, public supply	4/ 2/14	10	1	26	16	.020	.096	Trace	0.36	1.00	14.3	5.00	3.20	450	+	—	—	..
Baldwinsville	Tap, public supply	5/19/14	Trace	Trace	238	215	.004	.002	Trace	2.60	5.25	201.5	166.0	0.30	210	—	—	—	..
Ballston	Tap, public supply	4/ 9/14	5	5	42	27	.022	.058	.001	0.06	0.75	20.8	20.0	1.70	150	+	—	—	..
Ballston	Tap, public supply	10/15/14	5	Trace	43	29	.008	.030	.001	Trace	0.75	27.3	24.0	1.00	375	—	—	—	..

Digitized by Google

Batavia	Tap at New York State School for the Blind	1/13/14	Trace	Clear	384	339	.012	.014	.005	1.76	9.25	328.5	252.0	1.00	200	—	—	—	..
Batavia	Tap at New York State School for the Blind	2/17/14	Trace	Clear	369	333	.022	.046	.001	1.60	7.50	300.0	258.0	1.10	15	—	—	—	..
Batavia	Tap at New York State School for the Blind	3/24/14	Trace	Trace	339	299	.016	.020	.001	0.64	4.50	285.5	244.0	0.70	26	—	—	—	..
Batavia	Tap at New York State School for the Blind	7/30/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7,100	+	+	—	..
Batavia	Tap at New York State School for the Blind	7/30/14	10	12	234	206	.004	.080	.001	0.16	9.25	188.5	183.0	3.00	43,000	+	+	+	..
Batavia	Tap at New York State School for the Blind	7/30/14	Trace	Clear	321	298	.002	.004	.001	0.70	4.25	293.0	256.0	0.30	200	+	—	—	..
Bath	Tap in grocery, Soldiers and Sailors' Home	1/19/14	Trace	Clear	225	200	.004	.010	.001	0.70	6.25	182.8	165.0	0.70	275	—	—	—	..
Bath	Tap in hospital, Soldiers and Sailors' Home	1/19/14	Trace	Clear	186	160	.024	.020	.001	0.02	6.50	151.4	148.0	0.70	4,500	+	—	—	..
Bath	Tap from village supply	2/13/14	Trace	Trace	213	183	.006	.010	.001	1.20	5.00	157.2	153.0	0.90	40	—	—	—	..
Bath	Tap, connected with institution supply	2/13/14	Trace	Clear	185	159	.016	.008	.002	0.02	5.75	154.2	147.0	0.90	25	—	—	—	..
Bath	Tap, in grocery	3/27/14	Trace	Trace	226	183	.010	.024	Trace	1.30	4.62	162.8	158.0	0.50	10,500	—	—	—	..
Bath	Tap, in hospital	3/27/14	Trace	Clear	186	165	.034	.020	.001	0.04	4.75	162.8	147.0	0.30	8,200	+	—	—	..
Bath	Farm spring, Soldiers and Sailors' Home	7/16/14	Trace	Clear	226	186	.004	.004	.002	3.60	3.50	171.4	155.0	0.50	65	—	—	—	..
Bath	Tap, power house, Soldiers and Sailors' Home	7/16/14	Trace	Clear	195	170	.002	.004	.002	0.04	5.75	157.2	152.0	0.40	1,200	+	—	—	..
Bath	Tap, public supply	7/16/14	Trace	Clear	268	208	.004	.006	.002	1.60	6.50	182.0	176.0	0.60	600	+	—	—	..
Beacon	Tap, public supply	3/16/14	Trace	1	28	19	.010	.014	.002	0.04	1.50	16.9	90.0	1.70	375	+	—	—	..
Beacon	Creek water	11/ 6/14	12	Trace	126	106	.014	.050	.003	0.04	3.13	102.8	90.0	2.70	.....	.....	.....	.....	..
Beacon	Dam above Glenham	11/ 6/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	200	+	+	—	..
Beacon	Filtered water at Glenham	11/ 6/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	300	+	+	—	..
Town of Ballston	Well of Carl Johnson	8/31/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18,500	+	—	—	..
Town of Ballston	Well of Stephen Goufer	8/31/14	15	15	348	299	.004	.004	.001	Trace	33.00	191.4	150.0	1.00	4,600	+	+	—	..
Town of Ballston	Well of A. Mead	8/31/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,000	+	+	—	..
Bedford Hills	Tap at New York State Reformatory for Women	2/ 3/14	Trace	Clear	114	87	.004	.002	.001	0.40	6.63	64.3	61.0	0.80	20	—	—	—	..
Bedford Hills	Tap at New York State Reformatory for Women	3/ 1/14	Trace	Clear	102	80	.014	.014	.001	0.36	5.75	65.7	60.0	1.20	1,300	—	—	—	..
Bedford Hills	Tap at New York State Reformatory for Women	3/30/14	Trace	Clear	102	85	.014	.014	.001	0.32	6.50	65.7	61.0	0.60	270	—	—	—	..
Bedford Hills	Brook opposite infiltration well	8/28/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,500	+	+	—	..
Bedford Hills	Tap on pump	8/28/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	310	+	—	—	..
Binghamton	Raw water	4/29/14	Trace	15	114	94	.042	.096	.001	0.90	5.25	61.4	47.0	3.60	1,200	+	+	—	..
Binghamton	Filtered water	4/29/14	Trace	Clear	104	88	.030	.038	.001	0.90	5.25	57.1	40.0	1.80	10	—	—	—	..
Bolivar	Pump wells	1/ 8/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	130	—	—	—	..
Bolivar	Tap, public supply	1/ 8/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40	—	—	—	..
Bolivar	Tap, public supply	4/17/14	Trace	Trace	74	53	.010	.024	.001	0.06	5.25	48.6	40.0	0.90	4,700	—	—	—	..
Boonville	Tap, public supply	5/18/14	25	5	85	66	.006	.052	Trace	0.34	0.50	61.4	59.0	3.00	2,000	+	+	—	..
Bovina Center	Gate House, Bovina Water Co.	12/ 3/14	5	Trace	43	33	.004	.018	Trace	0.60	1.38	15.6	5.0	1.30	93,000	+	+	+	..
Bovina Center	Intake dam, main stream	12/ 3/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	285,000	+	+	+	..
Brewster	Tap, municipal supply	3/19/14	10	3	58	47	.012	.036	Trace	0.88	2.00	23.4	17.00	2.10	7,100	+	—	—	..

* Acidity = 8.00.

Digitized by Google

ANALYTICAL RESULTS OF SAMPLES OF WATER — (*Continued*)

CITY, TOWN OR VILLAGE	Source	Date	Color	Turbidity	Residue on evaporation	Mineral residue	Nitrogen as — Free ammonia	Nitrogen as — Albuminoid ammonia	Nitrogen as — Nitrites	Nitrogen as — Nitrates	Chlorine	Hardness, total	Alkalinity	Oxygen consumed	Bacteria per c.c.	B. Coli Type (+ = Present) (— = Absent) 10 c.c.	1 c.c.	1-10 c.c.	1-100 c.c.
Brewster	Tap, Avery supply	3/19/14	Trace	Clear	167	141	.018	.010	.001	1.40	14.87	74.3	50.0	0.70	10	—	—	—	..
Briarcliff Manor	Tap, in pump station	1/29/14	Trace	Clear	257	217	.004	.006	Trace	0.40	5.50	160.0	81.0	1.00	550	+	+	—	..
Briarcliff Manor	Tap, in pump station	3/ 3/14	2	Trace	238	210	.016	.022	.001	0.50	5.75	137.2	75.0	0.90	20	—	—	—	..
Briarcliff Manor	Well No. 7, surface of well	9/25/14	8	5	339	302	.112	.020	.002	0.16	5.75	162.8	51.0	2.10	445	+	—	—	..
Briarcliff Manor	Well No. 7, bottom of well	9/25/14	...	...	...	...	...	...	...	...	...	...	...	...	110	—	—	—	..
Briarcliff Manor	Tap, general supply	9/25/14	...	...	...	...	...	...	...	...	...	...	...	...	950	—	—	—	..
Brocton	Tap, public supply	4/14/14	5	12	82	63	.036	.106	.001	0.50	1.25	39.0	23.0	3.10	1,900	+	+	—	..
Bronxville	Tap, public supply	3/17/14	13	2	75	58	.046	.120	.002	0.64	6.75	44.3	30.0	4.20	70	—	—	—	..
Burke	Tap, public supply	5/13/14	5	Trace	100	79	.004	.020	.001	2.00	1.25	54.3	53.0	1.60	60	+	—	—	..
Cambridge	Tap, public supply	4/ 8/14	Trace	Trace	88	81	.006	.026	.001	0.34	1.50	55.7	54.0	0.80	50	—	—	—	..
Camden	Tap, public supply	5/20/14	10	Trace	73	61	.002	.026	.001	0.30	0.25	57.1	50.0	2.40	300	+	+	—	..
Canajoharie	Tap, public supply	5/ 7/14	8	3	130	114	.016	.042	Trace	0.10	0.75	105.8	103.0	2.20	110	+	—	—	..
Canandaigua	Tap, public supply	5/ 1/14	5	3	146	126	.006	.060	Trace	0.44	2.50	114.2	105.0	1.90	37,000	—	—	—	..
Canton	Tap, public supply	5/14/14	55	20	115	59	.068	.164	.001	0.08	0.50	39.0	20.0	34.80	1,600	+	+	+	..
Carthage	Tap, public supply	5/15/15	18	Trace	47	32	.038	.040	Trace	0.50	1.50	14.3	14.0	2.20	325	+	—	—	..
Catskill	Tap, public supply	3/26/14	20	12	111	87	.088	.152	.002	0.26	3.75	54.3	48.0	10.80	5,700	+	+	—	..
Cazenovia	Tap, public supply	4/28/14	Trace	2	164	142	.012	.054	.001	1.20	1.75	137.2	126.0	1.70	1,100	+	—	—	..
Central Islip	State hospital, well proposed for domestic use	3/16/14	2	Clear	23	14	.016	.008	.001	0.04	3.50	11.1	5.00	0.60	65	—	—	—	..
Central Islip	General supply, "N" Colony	8/20/14	Trace	Clear	110	80	.002	.004	.001	1.00	6.75	36.40	—	0.20	10	—	—	—	..
Central Islip	Well near Ward No. 3, Group "M"	8/20/14	...	...	...	...	...	...	...	...	...	...	...	...	150	+	+	—	..
Central Islip	Tap, operating room, "S" Colony	8/20/14	Trace	Clear	69	46	.004	.004	.001	0.10	4.38	22.10	—	0.20	20	—	—	—	..
Central Valley	Tap, public supply	3/24/14	5	Trace	52	34	.058	.126	.004	0.16	2.75	22.1	8.00	3.20	650	+	—	—	..
Chaffee	Tap, public supply	4/21/14	5	Trace	164	124	.014	.032	.002	3.20	4.00	108.6	91.0	0.90	130	—	—	—	..
Champlain	Intake at pumping station	10/14/14	18	Trace	93	68	.014	.082	.001	0.02	0.88	60.0	60.0	4.40	1,400	+	+	—	..
Champlain	Tap, public supply	10/14/14	...	...	...	...	...	...	...	...	...	...	...	...	1,000	+	+	—	..
Charlton	Alplaus creek, 125' above gauging station	4/ 4/14	18	10	88	65	.018	.138	.001	0.40	0.75	40.3	32.0	6.50	800	+	—	—	..
Charlton	Alplaus creek, ½ mile above gauging station	4/ 4/14	...	...	...	...	...	...	...	...	...	...	...	...	1,000	+	—	—	..
Chateaugay	Tap, public supply	5/14/14	Trace	Trace	101	82	.004	.014	.001	1.30	1.50	62.9	56.0	0.60	10	—	—	—	..
Chatham	Tap, public supply	3/19/14	Trace	Clear	160	135	.008	.012	.001	2.00	6.50	87.1	78.0	0.50	45	—	—	—	..
Cherry Valley	Tap in school house	4/28/14	Trace	1	290	265	.028	.014	.010	1.60	5.25	214.5	200.0	0.80	190	—	—	—	..
Chester	Tap, public supply	3/24/14	Trace	Clear	35	21	.028	.096	.001	0.08	1.75	18.2	10.0	2.50	170	—	—	—	..
Cincinnatus	Tap at F. M. Curtis'	12/ 5/14	...	...	...	...	...	...	...	...	...	...	...	...	50	+	—	—	..

Digitized by Google

Cincinnatus	Tap at A. W. Smith's	12/ 5/14													30	+	−	−	−	
Cincinnatus	Tap at Smith Bros	12/ 5/14	Trace	Trace	91	76	.002	.004	.001	0.70	1.50	54.30	51.0	0.90	60	+	−	−	−	
Clayton	Tap, public supply	5/15/14	5	Trace	140	120	.016	.060	.001	0.10	8.00	97.2	92.0	2.00	150	−	−	−	−	
Clifton Springs	Tap, public supply	5/ 1/14	Trace	Clear	302	263	.050	.016	Trace	3.20	4.50	257.0	254.0	0.90	48,000	−	−	−	−	
Clinton	Tap, public supply	5/ 5/14	5	3	524	472	.014	.056	Trace	0.70	4.00	321.5	161.0	1.10	170	+	−	−	−	
Cohoes	Settled, raw water from reservoir at purification plant	4/27/14	15	65	137	110	.104	.176	.002	0.60	2.25	57.1	50.0	6.80	6,700	+	+	+		
Cohoes	Tap in laboratory, purified water of high pressure service	4/27/14	7	5	116	91	.106	.096	.001	0.60	2.25	62.9	43.0	2.40	10	−	−	−	−	
Cold Spring	Tap, public supply	3/16/14	10	2	43	34	.016	.036	.002	0.06	2.00	28.6	22.0	2.50	375	−	−	−	−	
Cook's Falls	Tap, public supply	4/ 1/14	10	Trace	23	14	.008	.048	Trace	0.14	0.50	11.1	2.00	2.70	550	+	−	−	−	
Cornwall	Tap, public supply	3/23/14	8	Trace	35	25	.010	.040	Trace	0.08	2.50	19.5	8.00	2.00	90	+	−	−	−	
Cortland	New spring reservoir	1/29/14	Trace	Clear	170	140	.006	.002	Trace	0.90	2.00	131.4	127.0	0.70	90	−	−	−	−	
Cortland	Old spring reservoir	1/29/14	Trace	Clear	169	137	.010	.004	.001	0.80	2.25	120.0	118.0	0.90	600	+	−	−	−	
Cortland	Tap, public supply	4/28/14	Trace	Trace	151	120	.020	.090	.001	1.10	2.75	108.6	104.0	0.60	425	−	−	−	−	
Cortlandville	Well at Galusha farm	11/ 7/14													3,600	+	+	−	−	
Cortlandville	Well at Welch house	11/ 7/14													120	+	+	−	−	
Cortlandville	Well at Green house	11/ 7/14													100	−	−	−	−	
Cortlandville	Well at Hicks house	11/ 7/14													450	+	+	−	−	
Coxsackie	Tap, public supply	3/27/14	18	14	90	75	.014	.068	.001	0.46	2.50	45.7	38.0	3.30	10,500	+	+	−	−	
Croton	Tap, public supply	3/17/14	10	10	143	118	.012	.020	.001	0.16	2.87	102.8	103.0	1.90	550	−	−	−	−	
Cuba	Tap, public supply	4/18/14	Trace	2	127	115	.010	.020	.001	0.60	1.37	80.0	79.0	0.80	25,000	−	−	−	−	
Deansboro	Tap, public supply	5/ 6/14	Trace	2	270	228	.012	.038	.001	2.00	3.25	214.5	207.0	1.10	1,000	+	−	−	−	
Delhi	Tap, public supply	4/ 1/14	15	25	44	31	.046	.134	.001	0.80	1.00	9.5	3.00	3.70	8,600	+	+	+	−	
Depew	Tap, public supply	4/13/14	5	80	159	138	.010	.078	.001	0.16	7.25	100.0	84.0	3.00	400	+	−	−	−	
Deposit	Tap, public supply	4/ 2/14	Trace	8	39	30	.050	.078	.001	0.60	1.50	7.90	2.00	1.80	1,900	+	+	−	−	
De Ruyter	Tap, public supply	4/27/14	12	2	27	17	.006	.050	.001	0.08	0.75	12.7	5.00	3.00	140	+	−	−	−	
Dryden	Tap, public supply	1/23/14	Trace	Clear	178	151	.004	.008	.001	1.00	2.00	148.6	126.0	0.80						
Dryden	Tap, public supply	9/ 1/14	3	Clear	173	158	.008	.008	.001	2.40	1.75	125.8	120.0	1.00	180	+	+	−	−	
Dunkirk	Tap, public supply	4/14/14	5	25	159	133	.020	.108	.001	0.10	7.50	84.3	82.0	2.60	450	−	−	−	−	
Dunkirk	Tap, public supply	5/23/14									8.00				250	−	−	−	−	
Earlville	Tap, public supply	5/ 5/14	12	Clear	45	31	.010	.056	Trace	0.14	0.50	22.1	13.0	2.40	150	+	−	−	−	
East Aurora	Sinking pond	2/ 5/14													6,100	+	+	−	−	
East Aurora	Tap, Pine street station	2/ 5/14													30	−	−	−	−	
East Aurora	Tap, South street pumping station	2/ 5/14													110	−	−	−	−	
East Aurora	Tap, at village office	2/ 5/14													30	−	−	−	−	
East Aurora	Sinking pond	2/10/14	30	5	320	276	1.59	.420	.003	0.06	3.00	257.0	156.0	15.2						
East Aurora	Tap, Pine street station	2/10/14	12	3	493	448	.018	.022	.008	0.20	3.75	350.0	218.0	1.35						
East Aurora	Tap, South street station	2/10/14	Trace	Trace	435	374	.032	.036	.002	0.80	8.38	357.0	207.0	1.25						
East Aurora	Tap, public supply	2/10/14	2	Clear	408	372	.008	.012	.003	0.02	3.75	300.0	207.0	1.10						
East Aurora	Tap, public supply	4/20/14	Trace	Trace	463	433	.004	.074	.007	0.40	3.75	328.5	201.0	1.70	120	−	−	−		
East Greenbush	Springs at source of brook No. 1	10/22/14													150	+	+	−		
East Greenbush	Springs at source of brook No. 2	10/22/14													160	+	+	−		
East Greenbush	Tap, in village	10/22/14	3	10	298	278	.002	.024	.001	0.10	3.25	250.0	198.0	2.20	650	+	+	+		
East Hamburg	Well of William Abbott (Armor)	9/14/14													10	−	−	−	−	
East Syracuse	Tap, public supply	5/20/14	5	Trace	226	200	.004	.052	.002	1.20	1.75	183.5	180.0	2.20	450	+	−	−	−	
Edmeston	Tap, public supply	3/31/14	Trace	Clear	121	108	.020	.046	Trace	1.20	1.37	100.0	98.0	0.50	35	−	−	−	−	
Ellenville	Tap, public supply	3/25/14	Trace	Clear	23	14	.006	.020	.001	0.04	0.87	12.7	7.00	1.30	30	−	−	−	−	

Digitized by Google

ANALYTICAL RESULTS OF SAMPLES OF WATER — (*Continued*)

CITY, TOWN OR VILLAGE	Source	Date	Color	Turbidity	Residue on evaporation	Mineral residue	Nitrogen as — Free ammonia	Nitrogen as — Albuminoid ammonia	Nitrogen as — Nitrites	Nitrogen as — Nitrates	Chlorine	Hardness, total	Alkalinity	Oxygen consumed	Bacteria per c.c.	B. Coli Type (+ = Present) (— = Absent) 10 c.c.	1 c.c.	1-10 c.c.	1-100 c.c.
Ellenville	Tap, North gully supply	9/ 3/14	Trace	Clear	69	59	.002	.006	Trace	0.06	0.75	47.1	45.0	1.00	2,400	—	—	—	..
Ellicottville	Tap, public supply	4/17/14	Trace	Clear	51	39	.030	.030	.001	0.28	1.00	23.4	20.0	0.80	15	—	—	—	..
Elmira	Ice from pond, New York State Reformatory	1/13/14	...	...	...	...	...	...	...	...	...	...	...	...	40	—	—	—	..
Elmira	Tap at New York State Reformatory	1/13/14	...	...	...	...	...	...	...	...	...	...	...	...	15	—	—	—	..
Elmira	Tap at New York State Reformatory	2/ 7/14	Trace	Clear	72	58	.022	.024	.002	0.60	1.88	32.5	9.0	2.00	30	—	—	—	..
Elmira	Ice from New York State Reformatory	2/ 7/14	...	...	...	...	...	...	...	...	...	...	...	...	550	+	—	—	..
Elmira	Tap at New York State Reformatory	3/24/14	2	Clear	80	57	.040	.034	.001	1.00	1.75	32.5	12.0	1.60	15	—	—	—	..
Elmira	Raw water	5/ 2/14	10	30	84	65	.018	.110	.001	0.36	1.50	26.0	15.0	3.30	...	...	...	...	..
Elmira	Filtered water	5/ 2/14	Trace	1	58	43	.014	.038	Trace	0.36	1.75	23.4	11.0	1.70	7,000	—	—	—	..
Elmira	Tap, public supply	5/30/14	...	...	...	...	...	...	...	...	...	...	...	...	50	—	—	—	..
Elmira	Tap, public supply	5/30/14	Trace	2	82	66	.006	.040	.001	0.40	2.25	47.1	34.0	1.00	30	—	—	—	..
Elmira	Tap, institution reservoir	5/30/14	10	40	101	78	.026	.194	.001	0.50	1.75	33.8	17.0	4.10	1,100	+	+	—	..
Elmira	Tap, public supply	5/30/14	Trace	2	82	66	.006	.040	.001	0.40	2.25	47.1	34.0	1.00	30	—	—	—	..
Elmira	Green house springs	5/30/14	...	...	...	...	...	...	...	...	...	...	...	...	30	+	—	—	..
Elmira	Tap, water used for drinking purposes	5/30/14	...	...	...	...	...	...	...	...	...	...	...	...	50	—	—	—	..
Fayetteville	Tap, public supply	5/19/14	Trace	Trace	363	340	.002	.008	Trace	2.00	2.50	278.5	169.0	0.40	150	—	—	—	..
Fire Island State Park	Well near center of pavilion	8/21/14	Trace	Clear	55	36	.002	.004	.001	0.24	15.75	14.3	3.0	0.60	10	—	—	—	..
Fire Island State Park	Tap in store, general supply	8/21/14	Trace	Clear	113	93	.004	.006	.002	0.16	24.50	40.3	30.0	0.90	5,600	+	+	—	..
Fonda	Tap, public supply	5/ 8/14	Trace	1	230	214	.004	.028	Trace	0.36	1.37	208.0	195.0	1.00	70	—	—	—	..
Fort Edward	Tap, public supply	4/ 9/14	17	Trace	38	23	.012	.046	Trace	0.18	0.50	15.6	11.0	3.30	120	+	—	—	..
Fort Edward	Tap, public supply	12/ 4/14	12	Trace	42	26	.004	.008	.001	0.16	0.50	14.3	13.0	2.60	40	—	—	—	..
Fort Plain	Tap, public supply	5/ 6/14	25	2	88	66	.006	.110	Trace	0.14	0.50	55.7	51.0	6.20	300	+	—	—	..
Frankfort	Tap, public supply	5/21/14	18	7	119	90	.006	.074	.001	0.08	0.50	64.3	62.0	3.00	110	+	—	—	..
Franklinville	Tap, public supply	4/20/14	5	1	146	130	.026	.060	.001	0.34	1.25	105.8	105.0	1.00	160	+	—	—	..
Fredonia	Tap, public supply	4/14/14	12	160	74	59	.016	.110	Trace	0.34	1.75	36.4	22.0	5.70	5,300	+	+	+	..
Friendship	Tap, public supply	4/18/14	Trace	2	60	36	.004	.024	.001	0.36	0.75	22.1	16.0	0.80	19,500	—	—	—	..
Fulton	Spring No. 2	3/28/14	...	...	...	...	...	...	...	...	...	...	...	...	75	—	—	—	..
Fulton	Spring No. 3	3/28/14	...	...	...	...	...	...	...	...	...	...	...	...	9,900	+	—	—	..
Fulton	Spring No. 4	3/28/14	...	...	...	...	...	...	...	...	...	...	...	...	5,400	+	—	—	..
Fulton	Tap at pumping station	3/28/14	...	...	...	...	...	...	...	...	...	...	...	...	8,100	+	—	—	..
Fulton	Oswego river	3/28/14	...	...	...	...	...	...	...	...	...	...	...	...	44,000	+	+	—	..

Digitized by Google

Fulton	Spring No. 2	3/30/14	Trace	Clear	1,200	933	.072	.044	.001	0.70	545.00	165.8	125.0	2.80	10	−	−	−	..
Fulton	Spring No. 3	3/30/14	Trace	Clear	133	108	.032	.046	.001	1.00	2.87	92.9	89.0	1.00	7,300	+	−	−	..
Fulton	Spring No. 4	3/30/14	Trace	Clear	123	95	.010	.028	Trace	0.70	2.25	83.9	82.0	0.40	120	+	−	−	..
Fulton	Tap at pumping station	3/30/14	Trace	Trace	569	440	.016	.026	.001	0.70	190.00	208.0	110.0	2.40	1,600	+	−	−	..
Fulton	Tap, American Express office	3/30/14	Trace	Clear	528	427	.018	.040	.001	0.66	190.00	182.0	108.0	1.70	950	−	−	−	..
Fulton	New Spring	3/30/14	Trace	2	205	184	.012	.014	.001	0.04	20.0	36.4	135.0	0.60	20	−	−	−	..
Fulton	Church spring	3/30/14	...	...	...	...	...	...	...	...	...	...	...	...	70	−	−	−	..
Fulton	Oswego river	3/30/14	20	40	300	236	.128	.182	.005	0.66	52.00	140.0	78.0	6.40	47,500	+	+	+	..
Fulton	Spring on Tilden farm available supply	5/20/14	Trace	Clear	190	167	.004	.046	.001	0.04	5.75	70.0	137.0	0.60	250	+	−	−	..
Fulton	Tap, public supply	5/20/14	Trace	Clear	542	419	.024	.048	.001	0.60	185.00	162.8	110.0	1.70	200	−	−	−	..
Fulton	Dug well, Becker premises	11/17/14	5	2	515	425	.004	.036	.007	12.80	16.75	364.0	318.0	1.60	1,900	+	+	−	..
Geneva	Raw water	4/ 1/14	Trace	5	248	211	.014	.084	.001	0.36	60.00	102.8	98.0	2.20	1,000	+	+	−	..
Geneva	Filtered water well, combined effluents	4/ 1/14	...	...	...	...	...	...	...	...	...	...	...	...	60	+	−	−	..
Geneva	Filtered water well, effluent No. 2	4/ 1/14	...	...	...	...	...	...	...	...	...	...	...	...	15	+	−	−	..
Geneva	Filtered water well, effluent No. 1	4/ 1/14	...	...	...	...	...	...	...	...	...	...	...	...	25	+	−	−	..
Geneva	Tap, force main	4/ 1/14	Trace	Clear	230	197	.014	.062	.001	0.34	60.00	102.8	95.0	1.40	120	+	−	−	..
Geneva	Tap, in city	4/ 1/14	Trace	Clear	243	211	.018	.062	.001	0.34	60.00	100.0	96.0	1.60	140	−	−	−	..
Geneva	Tap, public supply	4/ 1/14	2	3	250	216	.006	.068	Trace	0.36	60.00	102.8	97.0	1.40	20	−	−	−	..
Glens Falls	Tap, public supply	4/ 9/14	15	1	27	20	.008	.060	.001	0.02	0.75	9.5	4.0	2.90	400	+	−	−	..
Glens Falls	Tap, public supply	9/17/14	35	2	38	20	Trace	.028	Trace	0.14	0.50	19.5	11.0	3.50	...	...	...	...	..
Glens Falls	Butler distributing reservoir	9/ 7/14	...	...	...	...	...	...	...	...	...	...	...	...	12,500	+	−	−	..
Glens Falls	Kenau distributing reservoir	9/ 7/14	...	...	...	...	...	...	...	...	...	...	...	...	2,500	+	+	−	..
Gloversville	Tap, Kingsboro supply	5/ 8/14	Trace	Clear	116	104	.012	.018	.001	0.60	2.25	97.2	97.0	0.80	15	−	−	−	..
Gloversville	Tap, municipal supply	5/ 8/14	20	2	27	19	.004	.054	Trace	0.10	0.50	16.9	12.0	4.30	90	+	−	−	..
Goshen	Tap, public supply	3/24/14	15	2	69	49	.020	.136	.001	0.24	2.25	31.2	22.0	3.40	30	−	−	−	..
Gouverneur	Tap, public supply	5/14/14	60	Trace	47	23	.016	.134	Trace	0.08	0.50	22.1	11.0	18.80	140	+	+	−	..
Gowanda	Tap, public supply	4/16/14	5	8	166	135	.028	.050	.001	0.80	1.50	125.8	115.0	2.50	550	+	−	−	..
Gowanda	Ice pond, State hospital	9/11/14	...	...	...	...	...	...	...	...	...	...	...	...	900	+	+	−	..
Gowanda	Springs, State hospital	9/11/14	...	...	...	...	...	...	...	...	...	...	...	...	4,700	+	+	+	..
Gowanda	Reservoir, State hospital	9/11/14	...	...	...	...	...	...	...	...	...	...	...	...	9,200	+	−	+	..
Gowanda	Reservoir, State hospital	9/11/14	Trace	3	242	191	.002	.004	.002	0.02	4.00	148.6	143.0	0.70	...	...	...	...	..
Gowanda	Springs, State hospital	9/11/14	Trace	3	176	143	.004	Trace	.001	0.50	2.25	131.4	119.0	0.80	...	...	...	...	..
Granville	Tap, public supply	4/ 8/14	Trace	40	125	112	.016	.088	.002	0.34	1.00	39.0	34.0	3.90	8,500	+	+	−	..
Greene	Tap, municipal supply	5/ 4/14	5	Trace	30	18	.014	.032	Trace	0.02	0.75	14.3	10.0	1.20	1,500	−	−	−	..
Greene	Tap, Brookside supply	5/ 4/14	5	Clear	43	27	.008	.050	Trace	0.16	0.50	24.7	16.0	1.90	1,500	−	−	−	..
Green Island	Raw water	3/13/14	22	3	200	174	.192	.155	.004	0.20	15.25	131.4	107.0	10.20	3,900	+	+	+	..
Green Island	Purified water	3/13/14	10	Trace	198	161	.168	.130	.003	0.24	15.50	114.2	90.0	7.20	10	−	−	+	..
Green Island	Raw water	4/ 7/14	15	13	210	173	.215	.110	.004	1.00	13.25	120.0	108.0	5.80	5,500	+	+	+	..
Green Island	Mixed effluent, purified water	4/ 7/14	5	10	293	220	.400	.092	.001	1.00	32.00	151.4	109.0	4.10	9	−	+	−	..
Greenwich, Conn	Tap, public supply	4/ 9/14	28	80	124	99	.056	.262	.005	0.50	1.62	37.7	28.0	7.80	10,000	+	+	−	..
Greenwich, Conn	Pipen brook reservoir, Greenwich Water Co	5/ 6/14	90	10	60	32	.018	.204	Trace	0.06	1.62	12.7	8.0	14.00	8,100	+	+	−	..
Greenwich, Conn	Pipen brook, above intake to reservoir	5/ 6/14	...	...	...	...	...	...	...	...	...	...	...	...	16,500	+	+	−	..
Greenwich, Conn	Miami river at auxiliary pumping station	5/ 6/14	45	5	49	27	.018	.148	Trace	0.08	2.00	19.5	16.0	8.20	43,000	+	+	−	..
Greenwich, Conn	Lower reservoir	5/ 6/14	...	...	...	...	...	...	...	...	...	...	...	...	300	+	−	−	..
Greenwich, Conn	Tap in filter plant, filtered water	5/ 6/14	...	...	...	...	...	...	...	...	...	...	...	...	10	−	−	−	..
Greenwich, Conn	Tap, public supply	5/ 6/14	5	Trace	45	33	.004	.082	Trace	0.14	2.75	18.2	3.0	2.40	20	−	−	−	..
Groton	Tap, public supply	5/ 4/14	20	2	130	109	.012	.100	Trace	0.80	1.25	97.2	89.0	4.40	70,000	+	+	−	..

Digitized by Google

ANALYTICAL RESULTS OF SAMPLES OF WATER — (*Continued*)

CITY, TOWN OR VILLAGE	Source	Date	Color	Turbidity	Residue on evaporation	Mineral residue	Nitrogen as — Free ammonia	Nitrogen as — Albuminoid ammonia	Nitrogen as — Nitrites	Nitrogen as — Nitrates	Chlorine	Hardness, total	Alkalinity	Oxygen consumed	Bacteria per c.c.	B. Coli Type (+ = Present) (— = Absent) 10 c.c.	1 c.c.	1-10 c.c.	1-100 c.c.
Hadley	Tap, public supply	9/23/14	Trace	Clear	71	62	.042	.010	.001	0.02	0.50	41.6	41.0	2.00	210	+	+	—	..
Hamburg	Tap, public supply	4/13/14													35	—	—	—	..
Hamden	Tap, public supply	3/31/14	20	40	33	22	.048	.150	.001	0.40	1.00	11.1	3.0	3.90	6,200	+	+	—	..
Hamilton	Tap, public supply	5/ 5/14	Trace	Clear	196	174	.010	.036	Trace	0.50	2.00	168.6	165.0	0.80	20	—	—	—	..
Hammondsport	Pump at pumping station	10/ 9/14													225	+	+	—	..
Hammondsport	Tap, public supply	10/ 9/14	Trace	Clear	144	90	.004	.060	.001	0.16	3.25	75.7	73.0	2.20	275	+	—	—	..
Hammondsport	Tap, public supply	10/ 9/14													275	+	—	—	..
Hancock	Tap, public supply	4/ 2/14	10	2	24	15	.006	.044	Trace	0.14	0.50	12.7	2.0	2.10	800	—	—	—	..
Haverstraw	Tap, public supply	3/23/14	18	Trace	57	40	.008	.068	Trace	0.16	2.25	29.9	26.0	3.40	5,800	+	—	—	..
Herkimer	Tap, public supply	5/ 6/14	5	1	238	198	.002	.026	.002	2.40	3.50	157.2	146.0	3.30	40	—	—	—	..
Highland Falls	Fountain, public supply	4/13/14	12	Clear	31	20	.010	.040	.002	0.14	1.50	11.1	3.0	2.40	170	+	—	—	..
Highlands, Ulster Co.	Tap, public supply	3/26/14	5	Trace	51	43	.006	.028	.001	0.06	1.50	35.1	34.0	1.10	90	—	—	—	..
Hilburn	Tap, public supply	3/23/14	20	Clear	37	18	.018	.050	.001	0.06	2.25	14.3	3.0	3.80	130	+	—	—	..
Hilburn	Tap, public supply; mixed water	10/29/14													15	—	—	—	..
Hilburn	Reservoir at intake	10/29/14	Trace	Clear	111	78	.200	.020	.003	0.30	4.50	51.4	18.0	0.80	125	—	—	—	..
Hilburn	Well at iron works	10/29/14													15	—	—	—	..
Hobart	Raw water from reservoir, town brook	4/28/14	7	2	35	19	.012	.092	.001	0.70	1.75	15.6	6.0	2.80	500	+	+	—	..
Hobart	Raw water from Grant brook	4/28/14	7	2	35	14	.032	.090	.002	1.10	1.50	12.7	7.0	2.50	1,200	+	—	—	..
Hobart	Tap, in village, filtered	4/28/14	7	2	41	26	.038	.066	.001	0.70	1.50	12.7	6.0	2.40	110	+	—	—	..
Holland	Tap, public supply	4/20/14	Trace	Trace	184	142	.012	.038	.001	4.60	5.00	122.8	105.0	1.10	250	+	—	—	..
Holley	Tap, public supply	12/12/14	Trace	Clear	337	308	.004	.030	.001	1.00	7.25	285.5	225.0	2.00	370	—	—	—	..
Homer	Tap, public supply	4/28/14	Trace	Trace	160	140	.014	.032	.001	0.80	1.75	137.2	132.0	0.90	5	—	—	—	..
Hoosick Falls	Tap, public supply	3/31/14	Trace	Trace	96	79	.028	.080	Trace	0.24	3.75	58.6	41.0	1.40	4,900	+	—	—	..
Hoosick Falls	Tap, public supply	4/ 8/14	Trace	Trace	92	65	.014	.056	.003	0.50	3.50	47.1	32.0	1.90	900	+	—	—	..
Hoosick Falls	Artesian well No. 1, public supply	5/28/14	Trace	1	102	87	.004	.018	.001	0.30	2.75	63.9	59.0	0.40					..
Hoosick Falls	Artesian well No. 2, public supply	5/28/14	Trace	1	85	63	.004	.024	.001	0.30	2.50	58.6	52.0						..
Hoosick Falls	Well No. 3	5/28/14	Trace	1	75	66	.004	.018	.001	0.46	2.25	48.6	41.0	0.60					..
Hoosick Falls	Artesian well No. 4	5/28/14	Trace	1	111	92	.012	.020	.001	0.40	3.25	64.3	62.0	0.50					..
Hoosick Falls	Artesian well No. 5	5/28/14													39,000	+	+	—	..
Hoosick Falls	Artesian well No. 1	6/ 5/14													20	+	—	—	..
Hoosick Falls	Artesian well No. 2	6/ 5/14													20	—	—	—	..
Hoosick Falls	Artesian well No. 3	6/ 5/14													20	—	—	—	..
Hoosick Falls	Artesian well No. 4	6/ 5/14													20	—	—	—	..

Digitized by Google

Hoosick Falls	Artesian well No. 5	6/ 5/14													30	+	—	—	—	..
Hoosick Falls	Artesian well	6/ 5/14	10	5	126	92	.050	.120	.004	0.16	5.00	85.8	84.0	4.00						..
Hornell	Tap, public supply	3/18/14	12	2	100	77	.010	.050	.001	0.10	1.88	57.1	53.0	2.30	5,600	+	—	—	—	..
Hornell	Tap, public supply	7/ 8/14	8	Trace	113	86	.004	.040	.005	0.72	1.25	72.9	73.0	2.90	650	+	—	—	—	..
Hornell	Tap, public supply	12/ 1/14													230	—	—	—	—	..
Hornell	Tap, public supply	12/ 1/14	Trace	Clear	123	107	.220	.042	.001	0.44	2.50	80.6	71.0	1.90	210	—	—	—	—	..
Horseheads	Tap, public supply	5/ 2/14	Trace	Trace	198	173	.020	.036	Trace	1.50	4.25	145.8	124.0	0.70	700	+	—	—	—	..
Hudson	Tap at New York State Training School for Girls	1/14/14	15	3	70	53	.006	.068	.002	0.16	1.75	39.0	28.0	3.60	120	—	—	—	—	..
Hudson	Tap at New York State Training School for Girls	2/10/14	20	3	69	45	.010	.046	.002	0.30	1.50	36.4	23.0	3.60	370	+	—	—	—	..
Hudson	Tap at New York State Training School for Girls	3/26/14	2	2	59	46	.016	.060	.001	0.34	1.50	32.5	26.0	3.00	850	+	—	—	—	..
Hudson	Tap at New York State Training School for Girls	6/ 5/14	15	3	63	48	.006	.074	.001	0.06	0.62	35.1	31.0	2.70	160	+	—	—	—	..
Hudson	Tap, public supply	6/ 9/14	27	5	66	45	.010	.128	Trace	0.10	1.25	33.8	28.0	3.10	3,100	+	+	—	—	..
Hudson	Tap, public supply, old system	11/28/14	15	3	430	378	.006	.040	.002	1.00	9.00	182.8	130.0	6.50	850	+	+	—	—	..
Hudson Falls	Tap, public supply	4/ 9/14	25	1	101	80	.052	.092	.001	1.20	3.50	55.7	35.0	5.30	160	+	—	—	—	..
Hudson Falls	Overflow reservoir and cold brook supply	10/ 2/14	8	Trace	107	73	.012	.024	.001	1.00	4.25	47.1	42.0	2.65	450	+	—	—	—	..
Hudson Falls	Tap, public supply	10/ 2/14	8	Trace	65	55	.004	.030	.001	0.30	2.00	36.4	31.0	4.50	300	+	+	—	—	..
Hudson Falls	Canal feeder, above pumping station	10/24/14													425	+	+	+	+	..
Hudson Falls	Canal feeder, opposite pumping station	10/24/14	18	Trace	52	27	.008	.064	.001	0.06	0.50	24.7	15.0	10.20	2,100	+	+	+	+	..
Hudson Falls	Spring at south end of reservoir	10/24/14													375	+	+	+	+	..
Hudson Falls	Tap at pumping station	10/24/14	18	Trace	72	52	.004	.036	.001	0.24	1.50	29.9	29.0	5.20	350	+	+	—	—	..
Hudson Falls	Tap, at Union Bag & Paper Co	10/24/14													190	+	—	—	—	..
Hudson Falls	Hudson river at intake	10/24/14													2,400	+	+	+	—	..
Hudson Falls	Tap, Cunningham hotel	10/24/14													160	+	+	—	—	..
Hudson Falls	Spring Brook Water Co	10/24/14														+	+	—	—	..
Hudson Falls	Canal, opposite pumping station	10/24/14													550	+	+	+	+	..
Hudson Falls	Spring flowing out of bank	10/24/14													350	+	+	—	—	..
Hudson Falls	Tap, Cunningham hotel	10/24/14													250	+	+	—	—	..
Hudson Falls	Raw water, reservoir No. 4	10/24/14													1,600	+	—	—	—	..
Hudson Falls	Tap at pumping station	10/24/14													800	+	—	—	—	..
Hudson Falls	Tap in express office	10/24/14													600	+	+	—	—	..
Ilion	Tap, public supply	5/21/14													50	+	—	—	—	..
Industry	Tap at New York State Agricultural and Industrial School	1/10/14	Trace	Clear	91	77	.006	.052	.003	0.12	3.50	68.6	57.0	2.70	100	+	—	—	—	..
Industry	Tap at New York State Agricultural and Industrial School	2/12/14													25	—	—	—	—	..
Industry	Clear ice from New York State Agricultural and Industrial School	2/18/14													425	—	—	—	—	..
Industry	Snow ice from New York State Agricultural and Industrial School														5,000	—	—	—	—	..
Industry	Tap at New York State Agricultural and Industrial School	3/23/14	12	Clear	91	78	.012	.076	Trace	0.20	2.25	65.7	57.0	2.60	60	+	—	—	—	..
Industry	Tap at New York State Agricultural and Industrial School	7/29/14	3	Trace	93	69	.002	.056	.001	0.12	3.00	55.7	54.0	2.30	50	—	—	—	—	.

Digitized by Google

ANALYTICAL RESULTS OF SAMPLES OF WATER — (*Continued*)

City, Town or Village	Source	Date	Color	Turbidity	Residue on evaporation	Mineral residue	Nitrogen as — Free ammonia	Nitrogen as — Albuminoid ammonia	Nitrogen as — Nitrites	Nitrogen as — Nitrates	Chlorine	Hardness, total	Alkalinity	Oxygen consumed	Bacteria per c.c.	B. Coli Type (+ = Present) (— = Absent) 10 c.c.	1 c.c.	1-10 c.c.	1-100 c.c.
Industry	Tap at New York State Agricultural and Industrial School	8/29/14	Trace	Clear	74	58	Trace	.022	Trace	0.10	1.25	54.3	52.0	2.10	700	+	+	—	..
Irondequoit	Well	5/ 8/14	Trace	Trace	858	788	.066	.102	Trace	5.60	65.00	378.5	238.0	2.90	425	+	—	—	..
Irondequoit	Well	11/ 5/14	5	Trace	374	347	.008	.070	.005	0.08	10.00	343.0	339.0	3.00	.....	....	....	....	..
Iroquois	Artesian well supply, Thomas Indian School	1/13/14	3	Trace	246	232	.252	.018	.002	0.02	18.00	117.2	198.0	0.80	50	—	—	—	..
Iroquois	Spring supply, Thomas Indian School	1/13/14	Trace	Clear	198	183	.028	.016	.003	0.08	1.25	177.2	173.0	0.60	55	—	—	—	..
Iroquois	Artesian well supply, Thomas Indian School	4/13/14	Trace	Trace	261	238	.234	.020	.001	0.02	16.25	125.8	201.0	0.60	20	+	—	—	..
Iroquois	Spring supply, Thomas Indian School	4/13/14	Trace	Trace	197	180	.014	.020	.001	0.14	1.00	174.2	175.0	0.50	5	—	—	—	..
Irvington	Tap, public supply	3/17/14	12	Trace	75	53	.028	.066	.002	0.08	3.75	27.3	10.0	3.10	110	+	—	—	..
Ischua	Spring	11/ 4/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7,900	+	+	—	..
Ithaca	Raw water	4/20/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11,000	+	+	—	..
Ithaca	Coagulated water	4/20/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	275	+	—	—	..
Ithaca	Effluent filter No. 2	4/20/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	35	+	—	—	..
Ithaca	Water from reservoir after addition of hypochlorite	4/20/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	—	—	—	..
Jamestown	Tap, public supply	4/15/14	Trace	Trace	120	95	.012	.020	.001	0.02	2.75	85.7	84.0	0.50	10	—	—	—	..
Jay	Rocky branch stream	10/22/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	19,000	+	—	—	..
Jay	Stream, rear of Crownchild house	10/22/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,700	+	+	+	..
Jay	Tap at Dr. Smith's house	10/22/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,500	+	—	—	..
Jay	Intake at reservoir	10/22/14	5	Clear	94	74	.022	.064	.001	0.02	1.13	55.7	54.0	3.40	18,600	+	+	+	..
Johnstown	Tap, public supply	5/ 8/14	12	2	79	61	.004	.046	Trace	0.10	0.25	58.6	54.0	3.40	160	+	—	—	..
Johnstown	Cold brook intake, public supply	6/ 9/14	5	1	123	102	.002	.012	Trace	0.10	0.75	100.0	99.0	0.70	40	+	—	—	..
Johnstown	Cork Center reservoir	6/ 9/14	10	2	109	92	.006	.036	Trace	0.10	0.50	77.1	75.0	2.00	90	+	+	—	..
Johnstown	Tap, public supply	6/ 9/14	7	1	116	93	.002	.022	Trace	0.12	0.50	87.1	86.0	1.00	70	+	+	—	..
Katonah	Tap, public supply	3/18/14	5	2	212	165	.170	.068	.001	2.40	8.25	140.0	110.0	6.32	40	—	—	—	..
Kenmore	Tap, public supply	4/21/14	5	20	153	119	.012	.110	.001	0.14	7.25	94.2	86.0	2.30	180	+	—	—	..
Kings Park	Well water, new boiler house	7/14/14	Trace	Clear	38	21	.004	.002	.001	Trace	4.75	18.2	9.0	0.40	15	—	—	—	..
Kings Park	Well water, old boiler house	7/14/14	Trace	Clear	106	66	.004	.002	.001	3.20	17.25	36.4	23.0	0.30	1,600	+	+	—	..
Kingston	Tap, high service supply	1/16/14	5	Trace	37	27	.052	.018	.005	0.36	2.50	18.2	11.0	1.00	20	—	—	—	..
Kingston	Tap, low service supply	1/16/14	5	Clear	28	21	.036	.014	.004	0.20	2.50	19.5	10.0	1.40	30	—	—	—	..
Kingston	Tap, low service supply	3/26/14	8	1	21	19	.150	.076	.001	0.16	1.00	9.5	6.0	1.50	750	—	—	—	..
Kingston	Tap, high service supply	3/26/14	8	2	30	18	.138	.084	.001	0.14	1.00	12.7	6.0	1.70	1,700	—	—	—	..

Digitized by Google

Lackawanna	Tap, public supply	4/21/14	Trace	15	152	123	.042	.114	.002	0.10	10.50	98.6	86.0	2.90	190	—	—	—	
Lake George	Tap, public supply	4/ 9/14	15	Trace	29	19	.008	.060	Trace	0.04	0.62	12.7	3.0	3.80	210	—	—	—	
Lake Placid	Tap, public supply	1/27/14													3	—	—	—	
Lake Placid	Lake water	1/27/14	2	Clear	40	20	.022	.052	.001	0.06	0.75	12.7	7.0	3.60	5	—	—	—	
Lake Placid	Tap, at American House	2/23/14													26	—	—	—	
Lake Placid	Tap, at town hall	2/23/14													14	—	—	—	
Lake Placid	Tap, at high school	2/23/14													130	—	—	—	
Lake Placid	Tap, public supply	3/24/14													50	—	—	—	
Lake Placid	Spring on River street	4/24/14													60,000	+	+	—	
Lake Placid	Tap, at Tredo cottage	4/24/14													70	—	—	—	
Lake Placid	Water from Lake Placid	8/13/14	Trace	Trace	23	13	.002	.016	.001	0.02	0.50	7.90	7.0	2.70	40	+	—	—	
Lake Placid	Drinking fountain, Lake Placid Club	8/13/14													20	—	—	—	
Lake Placid	Tap, public supply	11/12/14													140	—	—	—	
Lake Placid	Brook at Bouson camp	11/12/14													270	+	+	—	
Lake Placid	Brook at Shaw camp	11/12/14													150	—	—	—	
Lake Placid	Brook at Prall camp	11/12/14													200	—	—	—	
Lake Placid	Tap, public supply	11/25/14	5	Trace	47	27	.014	.064	.001	0.02	0.38	11.10	6.0	3.80			—		
Lake Placid	Brook at Shaw camp	11/25/14													60	—	—	—	
Lake Placid	Brook at Bouson camp	11/25/14													40	+	—	—	
Lake Placid	Brook at Prall camp	11/25/14													70	+	—	—	
Lake Placid	Intake at Lake Placid	11/25/14													20	+	—	—	
Lake Placid	Tap, Mirror Lake pharmacy	12/12/14													20	—	—		
Lake Placid	Tap, Lake Placid pharmacy	12/12/14													18	—	—		
Lake Placid	Tap, drinking fountain	12/12/14													22	—	—		
Lakewood	Tap, public supply	4/15/14	8	2	426	401	.314	.042	.001	0.04	74.00	130.0	234.0	1.20	10	—	—	—	
Lancaster	Tap, public supply	4/13/14	5	75	161	134	.006	.084	.001	0.16	7.00	101.5	82.0	3.10	350	+	—	—	
Larchmont	Tap, public supply	3/18/14	12	5	75	53	.036	.086	Trace	0.36	4.00	27.3	14.0	3.20	11,000	+	+	—	
Larchmont	Tap, public supply	5/20/14	Trace	Trace	121	92	.008	.038	Trace	0.16	4.00	40.3	20.0	1.70	350	—	—	—	
Laurens	Tap, public supply	4/29/14	Trace	1	24	16	.016	.028	Trace	0.08	1.00	14.3	8.0	1.10	160	—	—	—	
Lestershire	Tap, public supply	4/29/14	Trace	Clear	179	128	.016	.020	.001	2.20	6.75	108.6	98.0	0.70	15	+	—	—	
Letchworth Village*																			
Liberty	Tap, public supply	4/ 1/14	8	1	24	15	.020	.058	Trace	0.10	0.50	9.5	2.0	2.90	2,800	+	+	—	
Lima	Main well at pumping station	8/ 7/14	Trace	Clear	374	310	.112	.008	.001	Trace	4.13	300.0	278.0	0.50	360	+	—	—	
Lima	Tap, public supply	11/10/14	Trace	Clear	310	292	.138	.006	.002	0.04	3.75	285.5	280.0	0.80	55	—	—	—	
Little Valley	Tap, public supply	4/16/14	Trace	Trace	77	57	.016	.030	.001	0.90	1.25	51.4	49.0	0.90	10	—	—	—	
Livingston Manor	Tap, public supply	4/ 1/14	16	Trace	22	18	.028	.074	Trace	0.12	0.50	9.5	1.0	4.70	350	—	—	—	
Lockport	Tap at pumping station at North Tonawanda	4/21/14	Trace	15	148	124	.022	.086	.001	0.10	7.25	92.9	87.0	2.10	300	+	+	+	
Long Beach	Tap, public supply	12/ 1/14	5	1	67	44	.012	.026	.002	0.80	10.88	28.6	9.0	0.50					
Long Beach	Tap, public service	12/ 1/14													5	—	—	—	
Lyons	Well at railroad station	4/24/14	Trace	10	1,429	1,164	.168	.038	.001	0.06	63.50	743.0	366.0	1.40	50	—	—	—	
McConnellsville	Tap, public supply	5/19/14	25	2	74	54	.008	.138	.001	0.32	1.50	44.3	38.0	4.60	325	+	+	+	
McGrawville	Tap, public supply	4/28/14	Trace	Trace	218	182	.014	.024	.001	3.40	8.75	142.8	141.0	0.60	5	—	—	—	
Machias	Tap, public supply	4/—/14	Trace	Trace	126	86	.006	.006	.001	0.70	0.87	74.3	74.0	0.50	10	—	—	—	
Madison	Little lake	9/29/14	Trace	Clear	258	237	.002	.008	.002	0.90	4.38	221.5	218.0	0.45	120	+	+	—	
Madison	Springs on shore of Little Lake	9/29/14	Trace	Clear	294	242	.004	.012	.002	0.60	3.63	235.5	211.0	0.70	180	+	—	—	

* See Thiells.

Digitized by Google

ANALYTICAL RESULTS OF SAMPLES OF WATER — (*Continued*)

CITY, TOWN OR VILLAGE	Source	Date	Color	Turbidity	Residue on evaporation	Mineral residue	Nitrogen as — Free ammonia	Nitrogen as — Albuminoid ammonia	Nitrogen as — Nitrites	Nitrogen as — Nitrates	Chlorine	Hardness, total	Alkalinity	Oxygen consumed	Bacteria per c.c.	B. Coli Type (+ = Present) (— = Absent) 10 c.c.	1 c.c.	1-10 c.c.	1-100 c.c.
Madison	Madison lake	9/29/14	5	2	125	95	.004	.130	Trace	Trace	0.88	91.4	87.0	4.25	60	+	—	—	..
Malone	Tap, public supply	5/14/14	2	1	119	98	.004	.008	.001	1.00	0.50	84.3	84.0	1.10	70	+	—	—	..
Manlius	Tap, public supply	5/20/14	Trace	Clear	255	232	.004	.014	.001	0.50	1.25	214.5	228.0	0.50	50	—	—	—	..
Manlius	Reservoir	9/17/14	Trace	3	248	211	.014	.052	.002	0.40	1.50	208.0	206.0	2.20	.....	.....	.....	.....	..
Manlius	Tap, public supply	9/17/14	Trace	Clear	264	228	.018	.018	.001	0.60	1.75	221.5	218.0	0.90	20	+	—	—	..
Manlius	Tap, public supply	9/17/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	—	—	—	..
Marathon	Tap, public supply	4/28/14	Trace	Clear	45	35	.012	.024	.001	0.50	1.12	32.5	22.0	0.80	15	—	—	—	..
Marion	Overflow of spring, new village supply	4/23/14	Trace	Clear	248	189	.014	.024	.001	3.80	3.00	182.8	157.0	0.80	15	+	—	—	..
Massena	Tap, public supply	5/14/14	5	5	146	123	.004	.076	.001	0.10	7.75	94.2	89.0	2.30	100	+	+	+	..
Mayville	Tap, public supply	4/14/14	Trace	Clear	159	143	.012	.014	Trace	1.30	6.50	122.8	105.0	0.30	15	—	—	—	..
Mechanicville	Tap, public supply	4/10/14	30	120	92	61	.038	.210	.001	0.22	1.50	50.0	35.0	10.00	3,000	+	+	—	..
Middletown	Raw, Monhagen supply	3/24/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8,600	+	—	—	..
Middletown	Filtered, Monhagen supply	3/24/14	22	Trace	69	40	.124	.102	.001	0.10	1.50	32.5	22.0	5.50	3,800	+	—	—	..
Middletown	Filtered, Highland supply	3/24/14	Trace	Trace	40	31	.500	.086	.001	0.12	1.62	20.8	12.0	2.30	55	—	—	—	..
Middleville	Tap, public supply	5/21/14	17	5	106	89	.014	.124	.005	0.16	0.50	85.7	84.0	3.60	3,400	+	+	—	..
Milton	Well	6/12/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	850	—	—	—	..
Mohawk	Tap, public supply	5/ 6/14	Trace	Clear	213	187	.010	.024	Trace	0.50	3.50	145.8	141.0	0.20	18	—	—	—	..
Monroe	Tap, public supply	3/24/14	18	Clear	45	29	.054	.090	.001	0.16	1.62	16.9	8.0	4.00	450	+	—	—	..
Montgomery	Tap, public supply	3/24/14	Trace	Clear	189	165	.010	.026	Trace	0.36	3.37	120.0	113.0	0.60	40	—	—	—	..
Montour Falls	Tap, public supply	5/ 2/14	7	3	100	80	.014	.068	.001	0.70	2.12	58.6	50.0	1.90	6,200	+	—	—	..
Mooers	Big Chazy river	10/14/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,400	+	+	+	..
Moravia	Tap at high school	3/ 5/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,700	+	—	—	..
Moravia	Tap, public supply	5/ 2/14	Trace	Trace	91	58	.004	.034	.001	3.00	2.25	44.3	28.0	1.00	300	+	—	—	..
Morrisville	Tap, State School of Agriculture	10/15/14	5	3	62	45	.002	.076	.001	0.02	1.25	36.4	32.0	3.30	20	—	—	—	..
Morrisville	Spring supply, State School of Agriculture	10/15/14	5	3	243	212	.004	.020	.001	0.80	0.88	208.0	204.0	0.70	45	+	—	—	..
Mount Upton	Tap, public supply	3/31/14	Trace	Trace	33	20	.028	.028	Trace	0.70	1.25	16.9	14.0	0.60	425	+	—	—	..
Mount Vernon	Tap at 140 Crary avenue	1/14/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	190	+	—	—	..
Mount Vernon	Tap at 31 Mt. Vernon avenue	1/14/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	90	—	—	—	..
Mount Vernon	Tap at 163 South Ninth avenue	1/14/14	5	Trace	162	125	.010	.034	.003	1.40	9.75	94.3	47.0	2.70	.....	.....	.....	.....	..
Mount Vernon	Tap, Mamaroneck water	2/25/14	7	3	108	83	.056	.062	.001	0.70	7.00	52.9	24.0	2.20	.....	.....	.....	.....	..

Digitized by Google

Mount Vernon	Tap at No. 47 South street	2/25/14													20	−	−	−	−	..
Mount Vernon	Tap at No. 21 Park avenue	2/25/14													35	−	−	−	−	..
Mount Vernon	Pelham Plant, raw	3/18/14													140	+	−	−	−	..
Mount Vernon	Pelham Plant, filtered	3/18/14	12	Clear	92	79	.180	.080	.001	2.00	7.75	67.1	42.0	2.50	15	−	−	−	−	..
Mount Vernon	Mamaroneck plant, raw	3/18/14	20	15	68	52	.052	.148	.002	0.24	2.87	26.0	15.0	5.60	5,700	+	+	−	−	..
Mount Vernon	Mamaroneck plant, purified	3/18/14	Trace	2	55	42	.046	.052	.002	0.24	4.50	27.3	9.0	2.00	15	−	−	−	−	..
Mount Vernon	Tap at 506 South Second avenue	4/18/14													2,800	−	−	−	−	..
Mount Vernon	Tap at 502 West Lincoln avenue	4/18/14	7	Trace	106	68	.024	.062	.001	0.46	5.50	42.9	18.0	2.00	1,400	+	−	−	−	..
Mount Vernon	Tap, Mamaroneck, filtered water	6/23/14	5	Clear	120	87	.004	.042	Trace	0.16	7.75	52.9	41.0	0.80	2,800	−	−	−	−	..
Mount Vernon	Tap, public supply	6/23/14													5,500	−	−	−	−	..
Mount Vernon	Well at 29 East 2nd street	6/30/14	10	5	223	157	.004	.018	.001	8.00	14.25	72.9	34.0	1.50	1,700	+	+	+	−	..
Mount Vernon	Tap, public supply, 209 West Lincoln avenue	7/14/14	5	1	118	81	.008	.006	.003	0.24	7.50	54.3	32.0	1.60	700	−	−	−	−	..
Mount Vernon	Tap, public supply, 222 Lorraine avenue	7/14/14													250	+	−	−	−	..
Mount Vernon	Tap, public supply, 546 North High street	7/14/14													400	−	−	−	−	..
Mount Vernon	Tap, public supply, 394 East 3rd street	7/14/14													2,100	+	−	−	−	..
Mount Vernon	Tap, public supply, 619 Locust street	8/ 7/14													40	+	−	−	−	..
Mount Vernon	Tap, public supply, 23 East 4th street	8/ 7/14													380	+	+	+	−	..
Mount Vernon	Tap, public supply, 213 Franklin avenue	8/27/14													200	+	−	−	−	..
Mount Vernon	Tap, public supply, 470 South Fourth avenue	8/27/14	12	2	127	80	.006	.020	Trace	0.06	6.38	51.4	50.0	4.60	200	+	−	−	−	..
Mount Vernon	City wells, tap on ground	10/ 8/14													4,300	+	−	−	−	..
Mount Vernon	Tap, public supply, 20 Beach street	10/ 8/14	10	2	77	61	.008	.080	.001	0.16	3.00	52.9	37.0	3.50	475	−	−	−	−	..
Mount Vernon	Tap, public supply, 487 East 5th street	10/ 8/14													650	−	−	−	−	..
Mount Vernon	Tap, public supply, 55 Clinton place	10/ 8/14													600	+	−	−	−	..
Mount Vernon	Well, 109 West Sidney avenue	10/ 8/14													550	+	+	+	−	..
Mount Vernon	Tap, public supply, 110 South Ninth avenue	12/11/14													150	+	−	−	−	..
Mount Vernon	Tap, public supply, 7 Willow place	12/11/14													130	−	−	−	−	..
Mount Vernon	Tap, public supply, 3 North Bleecker street	12/11/14	Trace	2	127	97	.030	.076	.001	1.00	12.00	60.0	24.0	3.20	500	+	−	−	−	..
Napanoch	Tap, Eastern New York Reformatory	1/18/14	2	Clear	21	13	.016	.012	.001	0.02	1.25	9.5	5.0	1.40	2,700	+	−	−	−	..
Napanoch	Tap, Eastern New York Reformatory	2/21/14	8	Trace	20	13	.008	.012	.001	0.02	1.25	11.1	5.0	1.90	2,500	−	−	−	−	..
Napanoch	Tap, Eastern New York Reformatory	3/26/14	7	Clear	15	9	.010	.028	Trace	0.02	1.25	6.3	1.0	1.60	1,900	−	−	−	−	..
Napanoch	Tap, Eastern New York Reformatory	8/ 8/14	Trace	Trace	48	38	.002	.002	.001	Trace	1.25	18.2	7.0	1.20	60	+	−	−	−	..
Nassau	Tap, public supply	5/ 8/14	Trace	Trace	106	91	.008	.032	Trace	0.14	1.25	62.9	60.0	1.10	90	+	−	−	−	..
Newark	Tap at New York State Custodial Asylum for Women	1/10/14	Trace	Clear	1,264	1,180	.006	.006	.003	0.70	4.50	871.0	210.0	0.30	15	−	−	−	−	..
Newark	Tap at New York State Custodial Asylum for Women	2/ 7/14	Trace	Clear	1,233	1,135	.010	.004	.002	0.50	4.25	771.0	207.0	0.30	25	−	−	−	−	..
Newark	Tap at New York State Custodial Asylum for Women	3/24/14	Trace	Clear	1,027	935	.014	.020	.001	1.00	3.75	800.0	210.0	0.50	50	−	−	−	−	..
Newark Valley	Tap, public supply	4/30/14	7	3	54	30	.010	.046	Trace	1.20	1.75	19.5	12.0	1.70	90,000	+	−	−	−	..
New Berlin	Tap, public supply	3/31/14	Trace	2	134	120	.024	.034	Trace	0.50	1.50	108.6	107.0	0.70	450	−	−	−	−	..
Newburgh	Tap, public supply	3/23/14	22	2	84	59	.096	.144	.001	0.24	2.50	45.7	39.0	6.00	1,200	+	+	−	−	..
Newburgh	Washington lake, opposite Gate house	11/20/14	10	4	132	77	.068	.174	.002	0.06	2.50	39.0	38.0	7.30	120	+	+	+	+	..
Newburgh	Silver stream	11/20/14													4,600	+	+	+	−	..
Newburgh	Tap, public supply	11/20/14													10	−	−	−	−	..

Digitized by Google

ANALYTICAL RESULTS OF SAMPLES OF WATER — (*Continued*)

CITY, TOWN OR VILLAGE	Source	Date	Color	Turbidity	Residue on evaporation	Mineral residue	Nitrogen as — Free ammonia	Nitrogen as — Albuminoid ammonia	Nitrogen as — Nitrites	Nitrogen as — Nitrates	Chlorine	Hardness, total	Alkalinity	Oxygen consumed	Bacteria per c.c.	B. Coli Type (+ = Present) (— = Absent) 10 c.c.	1 c.c.	1-10 c.c.	1-100 c.c.
New Hartford	Tap, public supply	5/ 5/14	18	5	126	107	.004	.078	Trace	0.50	1.37	91.4	75.0	3.00	550	+	—	—	..
New Paltz	Tap, public supply	3/26/14	5	Trace	73	62	.038	.090	.001	0.14	1.25	40.3	40.0	0.80	210	—	—	—	..
Newport	Tap, public supply	5/21/14	Trace	Trace	147	135	.010	.006	.001	0.60	0.50	122.8	122.0	0.60	20	—	—	—	..
New York City	Hydrant, House of Refuge, Randall's Island	1/12/14													140	—	—	—	..
New York City	Tap at House of Refuge, Randall's Island	2/10/14	15	Clear	67	47	.014	.088	.001	0.24	3.88	45.7	27.0	4.40	2,200	—	—	—	..
New York City	Tap at House of Refuge, Randall's Island	3/24/14	17	1	76	59	.016	.094	.001	0.24	3.50	35.1	30.0	4.60	160	—	—	—	..
New York City	Tap at House of Refuge, Randall's Island	9/ 3/14	15	2	63	38	.002	.048	.002	0.20	3.50	36.4	32.0	3.10	25,000	+	+	—	..
New York City	Tap at House of Refuge, Randall's Island	10/20/14	15	Trace	68	43	.012	.062	.001	0.16	3.00	40.3	32.0	3.30	350	+	—	—	..
Niagara Falls	Tap in 3rd street, city water	4/ 2/14													15	—	—	—	..
Niagara Falls	Tap in store, city water	4/ 2/14	15	2	152	123	.076	.092	.001	0.24	7.25	108.6	78.0	2.50	375	—	—	—	..
Niagara Falls	Falls street, city water	4/ 2/14	Trace	Clear	152	140	.054	.054	Trace	0.06	8.00	105.8	91.0	1.40	15	—	—	—	..
Niagara Falls	Tap, Second street, city water	4/ 2/14													140	—	—	—	..
Niagara Falls	Raw water, Western New York Co.	4/22/14	Trace	20	152	128	.036	.122	.001	0.12	7.25	88.6	83.0	2.90	80,000	....	+	+	+
Niagara Falls	Purified water, Western New York Co.	4/22/14	Trace	Clear	134	114	.104	.062	.001	0.14	7.50	92.9	73.0	1.80	80	—	—	—	..
Niagara Falls	Raw water, municipal supply	4/22/14	5	13	138	112	.016	.082	.001	0.12	7.25	94.3	87.0	2.10	1,900	..	+	—	—
Niagara Falls	Purified water, municipal supply	4/22/14	Trace	Clear	123	109	.014	.054	.001	0.10	7.00	90.0	76.0	1.10	45	—	—	—	..
North Elba	Intake pipe	6/18/14													40	—	—	—	..
North Elba	Drinking fountain	9/11/14													20	+	—	—	..
North Elba	Lake Placid water	9/11/14													30	+	—	—	..
North Elba	Over intake pipe	10/ 4/14													10	—	—	—	..
North Tonawanda	Tap, public supply	4/21/14	5	50	153	123	.006	.096	.001	0.12	7.25	100.0	89.0	2.80	650	+	+	—	..
North Tonawanda	Suction well of large pump	11/12/14													750	+	+	+	..
North Tonawanda	Tap over sink at pumping station	11/12/14													1,200	+	+	+	..
North Tonawanda	Tap, public supply, corner Main and Thompson street	11/12/14													1,400	+	+	+	..
North Tonawanda	Tap, public supply, 373 Goundrey street	11/12/14													180	+	+	+	..
North Tonawanda	Tap, public supply, 644 Oliver street	11/12/14													500	+	+	+	..
North Tonawanda	Pump well at pumping station	11/14/14													50	+	—	—	..
North Tonawanda	Tap, opposite pump No. 1, at pumping station	11/14/14													50	—	—	—	..
North Tonawanda	Tap, public supply, corner Main and Thompson streets	11/14/14													20	—	—	—	..
North Tonawanda	Tap, public supply, 373 Goundrey street	11/14/14													30	—	—	—	..

Digitized by Google

North Tonawanda	Tap, public supply, 644 Oliver street	11/14/14												100	−	−	−		
North Tonawanda	Pump well at pumping station	11/18/14												20	−	−	−		
North Tonawanda	Tap opposite pump No. 1, at pumping station	11/18/14												35	−	−	−		
North Tonawanda	Tap, public supply, corner Main and Thompson streets	11/18/14												20	−	−	−		
North Tonawanda	Tap, public supply, 644 Oliver street	11/18/14												30	−	−	−		
North Tonawanda	Tap, public supply, 373 Goundrey street	11/18/14												90	−	−	−		
North Tonawanda	Tap on suction well at pumping station	11/21/14												50	−	−	−		
North Tonawanda	Tap, opposite pump No. 1, at pumping station	11/21/14												15	−	−	−		
North Tonawanda	Tap, public supply, corner Main and Thompson streets	11/21/14												15	−	−	−		
North Tonawanda	Tap, public supply, 644 Oliver street	11/21/14												15	−	−	−		
North Tonawanda	Tap, public supply, 373 Goundrey street	11/21/14												30	−	−	−		
North Tonawanda	Pump well at pumping station	11/23/14												7	−	−			
North Tonawanda	Tap, opposite pump No. 1, at pumping station	11/23/14												110	+	+			
North Tonawanda	Tap, public supply, corner Main and Thompson streets	11/23/14												5	−	−			
North Tonawanda	Tap, public supply, 644 Oliver street	11/23/14												22	−	−			
North Tonawanda	Tap, public supply, 373 Goundrey street	11/23/14												60	−	−			
North Tonawanda	Suction well at pumping station	11/28/14												30	−	−	−		
North Tonawanda	Tap, opposite pump No. 1, at pumping station	11/28/14												300	−	−	−		
North Tonawanda	Tap, public supply, corner Main and Thompson streets	11/28/14												30	−	−	−		
North Tonawanda	Tap, public supply, 644 Oliver street	11/28/14												400	−	−	−		
North Tonawanda	Tap, public supply, 373 Goundrey street	11/28/14												750	−	−	−		
North Tonawanda	Suction well at pumping station	12/ 3/14												30	−	−	−		
North Tonawanda	Tap, opposite pump No. 1, at pumping station	12/ 3/14												240	+	+	−		
North Tonawanda	Tap, public supply, corner Main and Thompson streets	12/ 3/14												20	−	−	−		
North Tonawanda	Tap, public supply, 644 Oliver street	12/ 3/14												20	−	−	−		
North Tonawanda	Tap, public supply, 373 Goundrey street	12/ 3/14												30	−	−	−		
Norwich	Tap, public supply	5/ 4/14	10	2	45	27	.014	.068	Trace	0.50	0.75	22.1	13.0	2.50	8,000	+	−	−	
Norwood	Tap, public supply	5/13/14	40	10	41	17	.008	.120	.001	0.08	0.50	14.3	5.0	10.80	375	+	+	−	
Nunda	Tap, public supply	12/18/14	Trace	Clear	180	156	.002	.002	.001	1.00	2.50	140.0	139.0	0.60	60	−	−	−	
Nunda	Tap, public supply	12/18/14													40	−	−	−	
Nyack	Raw, Hackensack river	3/23/14													600	+	+	−	
Nyack	Tap, Odell supply	3/23/14	Trace	Trace	195	178	.004	.010	.002	1.20	7.25	137.2	130.0	0.70	50	−	−	−	
Nyack	Tap at filter plant, filtered water	3/23/14	20	Trace	80	65	.034	.100	.001	0.24	2.75	41.6	31.0	4.50	220	+	−	−	
Nyack	Tap, municipal spring supply	3/23/14	18	Trace	122	99	.006	.068	.001	0.70	6.00	60.0	58.0	3.20	250	+	−	−	
Nyack	Tap, municipal spring supply	8/ 7/14	Trace	2	178	160	.004	.004	.001	3.20	13.75	134.2	128.0	0.90	67,000	+	+	+	
Nyack	Tap, Odell supply	8/ 7/14	Trace	Clear	192	152	.004	.006	.001	1.40	6.88	120.0	118.0	0.80	51,000	−	−	−	
Ogdensburg	Raw water	2/24/14	2	1	131	118	.036	.128	.001	0.12	8.25	100.0	95.0	1.70	33	−	−	−	
Ogdensburg	Filtered water well	2/24/14													2	−	−	−	

Digitized by Google

ANALYTICAL RESULTS OF SAMPLES OF WATER — (*Continued*)

CITY, TOWN OR VILLAGE	Source	Date	Color	Turbidity	Residue on evaporation	Mineral residue	Nitrogen as — Free ammonia	Nitrogen as — Albuminoid ammonia	Nitrogen as — Nitrites	Nitrogen as — Nitrates	Chlorine	Hardness, total	Alkalinity	Oxygen consumed	Bacteria per c.c.	B. Coli Type (+ = Present) (— = Absent) 10 c.c.	1 c.c.	1-10 c.c.	1-100 c.c.
Ogdensburg	St. Lawrence river	2/24/14	2	1	134	121	.070	.168	Trace	0.10	8.25	100.0	96.0	2.00	37	—	—	—	..
Ogdensburg	Tap at Hotel Norman	2/24/14													3	—	—	—	..
Ogdensburg	Tap in city hall	5/14/14													5	—	—	—	..
Ogdensburg	Tap in power house	5/14/14													4	—	—	—	..
Ogdensburg	Tap in Oswegatchie pumping station	5/14/14	Trace	Trace	135	120	.002	.044	.001	0.06	7.75	97.2	91.0	1.60					..
Ogdensburg	Tap, St. Lawrence State Hospital	5/14/14	Trace	Trace	154	134	.010	.062	Trace	0.10	7.75	97.2	95.0	1.90					..
Olean	Tap, public supply	4/17/14	Trace	5	204	177	.024	.068	.001	0.30	10.5	160.0	134.0	1.10	1,300	—	—	—	..
Olean	Tap, public supply (city hall)	8/20/14													3,500	—	—	—	..
Olean	Tap, public supply (American Hotel)	8/20/14													175,000	+	—	—	..
Olean	Tap, public supply, Times office	10/15/14													10	—	—	—	..
Olean	Reservoir	10/15/14													30	—	—	—	..
Olean	Tap, public supply	12/ 1/14													30	—	—	—	..
Oneida	Tap, public supply	4/27/14	7	15	595	483	.046	.088	.004	0.70	4.62	328.5	131.0	3.30	2,700	—	—	—	..
Oneonta	Raw water	4/ 3/14	8	10	31	21	.022	.124	.001	0.26	1.00	14.3	5.0	3.20	2,500	+	+	—	..
Oneonta	Filtered water	4/ 3/14	Trace	Trace	33	22	.080	.078	.001	0.10	1.25	19.5	*	1.10	20	—	—	—	..
Oneonta	Filtered water, unit No. 6	4/ 3/14													10	—	—	—	..
Oriskany Falls	Tap, public supply	3/19/14	5	1	342	285	.284	.078	.075	0.16	2.87	243.0	238.0	2.40	700	—	—	—	..
Oriskany Falls	Tap, public supply	4/24/14	5	1	231	210	.018	.086	.007	0.70	2.00	201.5	191.0	1.90	850	—	—	—	..
Ossining	Tap, public supply	3/17/14	25	2	66	45	.040	.130	.001	0.20	3.50	36.4	14.0	5.60	475	+	—	—	..
Otego	Tap, ice cream saloon	5/18/14													325	++	+	—	..
Otego	Tap in store	5/18/14													50	++	—	—	..
Otego	Sill cock	5/18/14	10	1	47	33	.024	.056	Trace	0.44	1.25	26.0	22.0	1.90	40	+	—	—	..
Otego	Creek, above reservoir	5/18/14	25	2	57	43	.038	.066	.012	0.56	1.25	24.7	17.0	2.10					..
Owego	Public well supply	4/29/14	Trace	Trace	103	80	.014	.026	Trace	2.00	4.00	54.3	36.0	0.90	300	—	—	—	..
Owego	Tap, public supply	4/29/14	Trace	2	53	36	.020	.054	.001	0.70	1.50	15.6	4.0	1.40	30	—	—	—	..
Owego	Reservoir, filtered creek water	12/18/14	2	1	95	60	.004	.068	.003	0.40	3.13	52.9	47.0	3.40					..
Owego	Tap, public supply, Owego House	12/18/14													20	—	—	—	..
Owego	Tap, pumping station, well water	12/18/14	Trace	Clear	140	120	.006	.004	.003	0.16	5.50	97.2	95.0	0.70	5	—	—	—	..
Owego	Tap, public supply, express office	12/18/14													55	—	—	—	..
Oxford	Tap in kitchen, Woman's Relief Corps Home	1/26/14	Trace	Clear	52	35	.010	.010	Trace	3.60	1.25	28.6	19.0	0.70	60	—	—	—	..
Oxford	Railroad tank	1/26/14	Trace	Clear	76	62	.010	.008	.001	0.80	1.50	50.0	46.0	0.70	30	—	—	—	..

* Acidity = 3.0

Digitized by Google

Oxford	Tap in kitchen, Woman's Relief Corps Home	2/11/14													25	—	—	—	..
Oxford	Tap in kitchen, Woman's Relief Corps Home	3/26/14	2	Trace	35	25	.016	.034	Trace	0.34	0.50	15.6	11.0	1.30	2,000	—	—	—	..
Oxford	Railroad tank	3/26/14	Trace	Clear	73	60	.012	.036	Trace	0.70	1.25	39.0	37.0	0.90	8,700	+	—	—	..
Oxford	Tap, public supply	5/ 4/14	Trace	Trace	45	35	.030	.026	Trace	0.60	1.00	33.8	26.0	0.40	30	—	—	—	..
Oxford	Railroad tank	6/20/14	Trace	Clear	107	83	.004	.004	Trace	0.50	1.75	55.7	49.0	0.60	700	—	—	—	..
Oxford	Upper reservoir, institution supply, Woman's Relief Corps Home	6/20/14	Trace	2	64	45	.004	.012	Trace	0.36	1.00	24.7	21.0	0.20	3,500	—	—	—	..
Palmyra	Garlock spring	6/24/14	Trace	Clear	611	495	.002	.052	.002	5.00	16.00	321.5	277.0	2.40	1,300	+	—	—	..
Palmyra	Upper well	6/24/14	Trace	Clear	361	272	.002	.020	.001	4.60	8.50	264.5	215.0	1.20	70	+	—	—	..
Palmyra	Lower well	6/24/14	Trace	Trace	438	367	.006	.028	.001	5.60	3.50	257.0	178.0	1.40	120	+	—	—	..
Palmyra	Tap, public supply	6/24/14													80	+	—	—	..
Pawling	Tap, public supply	3/19/14	Trace	Trace	88	78	.022	.048	Trace	0.02	1.87	67.1	58.0	2.40	90	—	—	—	..
Peekskill	Tap, public supply	3/16/14	12	Trace	60	45	.012	.076	.001	0.20	2.25	42.9	28.0	3.80	55	—	—	—	..
Peekskill (State C'p)	Wallace pond, in front of inlet	6/16/14													550	+	+	—	..
Peekskill (State C'p)	Garrison brook, inlet of Wallace pond	6/16/14	17	1	84	63	.008	.042	.003	Trace	2.75	47.1	35.0	2.50	12,000	++	+	+	..
Peekskill (State C'p)	Wallace pond, at center of pond	6/16/14	35	5	93	72	.030	.106	.001	0.02	2.63	48.6	40.0	5.20	375	++	+	+	..
Peekskill (State C'p)	Garrison brook, near Catholic monastery property	6/16/14													7,800	+	+	+	..
Peekskill (State C'p)	Garrison brook, crossing highway above Wallace pond	6/16/14													8,600	+	+	+	..
Peekskill (State C'p)	Outlet of Wallace pond	6/16/14	20	Trace	69	58	.018	.066	.002	0.02	2.63	55.7	38.0	4.10	11,000	++	+	—	..
Pelham Manor	Tap, public supply	3/18/14	Trace	Trace	248	212	.016	.020	.001	2.00	83.00	162.8	101.0	0.80	45	—	—	—	..
Penn Yan	Tap, public supply	5/ 2/14	10	2	110	90	.022	.086	Trace	0.30	3.75	80.0	73.0	2.20	900	—	—	—	..
Perry's Mills	Big Chazy river	10/12/14													150	+	—	—	..
Phelps	Tap, public supply	5/ 2/14	Trace	Clear	265	233	.004	.022	Trace	4.00	2.75	221.5	187.0	1.00	75,000	+	—	—	..
Philadelphia	Tap, public supply	5/15/14	8	Trace	53	39	.008	.022	.001	0.04	0.50	32.5	31.0	1.80	80	+	—	—	..
Phoenix	Tap in spring pump house	3/31/14	5	5	425	380	.042	.074	.007	1.50	15.00	314.5	184.0	2.20	6,200	+	—	—	..
Phoenix	Tap, public supply	5/22/14	5	Trace	257	245	.008	.032	Trace	0.46	25.00	214.5	189.0	1.50	4,600	+	—	—	..
Plattsburg	Ice, No. 1, marked Ed. Buskey	2/15/14													20	—	—	—	..
Plattsburg	Ice, No. 2, marked Chas. Desjardine, (Plattsburg Ice Co.)	2/15/14													25	—	—	—	..
Plattsburg	Ice, No. 3, marked Frank Jabout	2/15/14													20	—	—	—	..
Plattsburg	Tap, public supply	5/12/14	22	2	87	72	.008	.098	.001	0.24	0.50	64.3	62.0	5.10	200	—	—	—	..
Plattsburg	Distributing reservoir	7/ 2/14	20	1	122	102	.008	.152	.001	0.20	0.75	94.2	93.0	4.60	250	+	+	—	..
Plattsburg	Tap, public supply	11/ 5/14	12	2	158	138	.008	.088	.003	0.10	0.25	100.0	82.0	2.70	45	+	—	—	..
Plattsburg	Intake at distributing reservoir	11/ 5/14	12	Trace	137	123	.004	.080	.003	0.10	0.50	120.0	118.0	2.80	90	+	—	—	..
Plattsburg	West brook stream, at site of new dam	11/ 5/14													1,200	+	—	—	..
Plattsburg	West brook stream, at site of Sanburn hill	11/ 5/14													260	+	+	—	..
Pleasantville	Tap, public supply	5/18/14	5	Trace	124	107	.082	.040	.002	0.44	4.50	75.7	56.0	1.40	40	—	—	—	..
Poland	Tap, public supply	5/21/14	Trace	2	158	143	.002	.006	.001	1.40	3.25	125.8	118.0	0.90	200	+	+	+	..
Port Chester	Tap, public supply	3/18/14	20	1	54	39	.018	.114	.001	0.06	3.25	18.2	11.0	5.00	300	—	—	+	..
Port Jervis	Tap, public supply	3/24/14	22	2	36	13	.022	.050	.001	0.08	0.75	11.1	3.0	4.00	1,250	+	+	—	..
Port Henry	Tap, Witherbee supply	5/11/14	12	5	159	140	.010	.080	Trace	0.20	2.25	117.2	115.0	4.60	220	++	++	—	..
Port Henry	Tap, municipal supply	5/11/14	13	Trace	93	74	.014	.044	Trace	0.20	1.00	50.0	46.0	3.20	400	++	+	—	..
Port Henry	Reservoir	10/14/14	22	Trace	77	55	.014	.068	.001	0.02	0.88	50.0	45.0	5.60	1,450	+	—	—	..
Port Leyden	Tap, public supply	5/18/14	Trace	Clear	47	35	.004	.016	Trace	0.60	0.25	20.8	16.0	0.80	3,200	—	—	—	..

Digitized by Google

ANALYTICAL RESULTS OF SAMPLES OF WATER — (*Continued*)

City, Town or Village	Source	Date	Color	Turbidity	Residue on evaporation	Mineral residue	Nitrogen as — Free ammonia	Nitrogen as — Albuminoid ammonia	Nitrogen as — Nitrites	Nitrogen as — Nitrates	Chlorine	Hardness, total	Alkalinity	Oxygen consumed	Bacteria per c.c.	B. Coli Type (+ = Present) (— = Absent) 10 c.c.	1 c.c.	1-10 c.c.	1-100 c.c.
Portville	Tap, public supply	4/17/14	8	2	37	27	.020	.040	.001	0.24	0.87	18.2	12.0	1.50	5,000	—	—	—	..
Potsdam	Tap, public supply	5/15/14	40	5	35	20	.010	.104	.001	0.12	0.50	14.3	5.0	11.20	180	+	+	—	..
Poughkeepsie	State hospital, sample No. 1	2/25/14													5,600	+	+	+	+
Poughkeepsie	State hospital, sample No. 2	2/25/14													1,400	+	+	+	+
Poughkeepsie	State hospital, sample No. 3	2/25/14													2,300	+	+	+	..
Poughkeepsie	State hospital, sample No. 4	2/25/14													2,100	+	+	+	+
Poughkeepsie	State hospital, sample No. 5	2/25/14													450	+	+	+	..
Poughkeepsie	State hospital, sample No. 6	2/25/14													4,000	+	+	+	+
Poughkeepsie	State hospital, sample No. 7	2/25/14													950	+	+	+	—
Poughkeepsie	State hospital, sample No. 8	2/25/14													4,600	+	+	+	+
Poughkeepsie	State hospital, sample No. 9	2/25/14													1,900	+	+	+	+
Poughkeepsie	State hospital, sample No. 10	2/25/14													1,000	+	+	—	—
Poughkeepsie	State hospital, sample No. 11	2/25/14													600	+	+	+	—
Poughkeepsie	Tap, public supply	3/16/14	12	Clear	102	83	.022	.046	.002	0.24	4.25	77.1	47.0	6.40	50	—	—	—	..
Poughkeepsie	Hudson River State Hospital, general supply	8/ 7/14	18	Clear	102	72	.006	.018	.001	0.20	4.50	64.3	63.0	5.90	470	+	—	—	..
Poughkeepsie	Well on Moore farm	8/ 7/14	Trace	1	330	220	.002	.004	.005	4.80	5.75	188.6	150.0	0.50	90	+	+	—	..
Poughkeepsie	Well at Traver place, east farm	8/ 7/14													230	+	+	—	..
Poughkeepsie	Raw water	10/15/14													5,000	+	+	—	..
Poughkeepsie	Effluent of settling tank	10/15/14													1,200	+	+	+	..
Poughkeepsie	Tap at laboratory	10/15/14													10	—	—	—	..
Poughkeepsie	Tap, public supply	10/15/14													10	—	—	—	..
Poughkeepsie	Well of John G. Bahret	10/27/14	15	3	573	466	.010	.024	.010	18.00	60.00	335.5	179.0	0.80					..
Poughkeepsie	School well at Chapel corners	10/27/14	Trace	Trace	192	150	012	.024	.008	2.80	17.75	131.4	75.0	1.00					..
Poughkeepsie	Fallkill creek, one-half mile north of dam	10/27/14	30	1	164	144	.016	.176	.001	0.04	4.50	92.9	40.0	6.80					..
Poughkeepsie	Fallkill pond, above dam	10/27/14	18	2	104	87	.016	.170	.001	0.04	2.75	80.0	60.0	5.15					..
Poughkeepsie	Well of Christian Bahret	10/27/14	Trace	2	254	239	.078	.008	.003	0.06	5.25	195.0	180.0	0.45					..
Poughkeepsie	Hudson River State Hospital, raw water	10/27/14	35	8	602	506	.022	.104	.002	0.06	240.00	100.0	74.0	9.30					..
Poughkeepsie	Hudson River State Hospital, filtered water	10/27/14	25	Clear	430	365	.004	.066	.003	0.06	150.00	105.8	76.0	8.35					..
Prattsburg	Reservoir, public supply	10/16/14													20	—	—	—	..
Prattsburg	Tap at well, public supply	10/16/14													110	+	+	+	..
Prattsburg	Tap, public supply	10/16/14	5	Clear	113	77	.010	.032	.002	0.70	1.38	70.0	70.0	2.40	15	+	—	—	..
Prospect	Tap, Hodge & Dodge supply	5/21/14													20	—	—	—	..

Digitized by Google

Prospect	Tap, Maxfield supply	5/21/14													10	−	−	−
Pulaski	Tap, public supply	5/19/14	10	5	140	96	.012	.090	.002	0.20	2.50	64.3	63.0	2.70	900	+	+	−
Randolph	Tap, public supply	7/28/14													550	+	−	−
Ravena	Tap, public supply, Park Hotel, 8:20 A. M.	4/ 3/14	10	25	93	80	.020	.118	Trace	0.60	2.00	32.5	25.0	4.00	130	−	−	−
Ravena	Raw water at dam, Hannacroix creek, 9:30 A. M.	4/ 3/14	10	15							1.25				1,700	+	+	+
Ravena	Concrete tank at plant, treated water, 9:45 A. M.	4/ 3/14	10	22							1.62				48	−	−	−
Ravena	Tap, public supply, Park Hotel, 10:00 A. M.	4/ 3/14													110	−	−	−
Ravena	Concrete tank at plant, treated water, 11:00 A. M.	4/ 3/14													43	−	−	−
Ravena	Tap, public supply, Park Hotel, 11:15 A. M.	4/ 3/14	8	20							2.00				75	−	−	−
Ravena	Raw water at dam, Hannacroix creek, 12:00 M.	4/ 3/14													2,300	+	−	−
Ravena	Concrete tank at plant, treated water, 12:15 P. M.	4/ 3/14	8	20							2.50				45	−	−	−
Ravena	Tap, public supply, Park Hotel, 12:45 P. M.	4/ 3/14	8	20							2.00				170	−	−	−
Ravena	Concrete tank at plant, treated water, 1:30 P. M.	4/ 3/14													50	−	−	−
Ravena	Tap, public supply, Park Hotel, 2:15 P. M.	4/ 3/14													100	−	−	−
Ravena	Raw water at dam, Hannacroix creek, 2:30 P. M.	4/ 3/14	10	20	99	86	.014	.128	.001	0.34	1.37	36.4	28.0	3.90	2,100	+	+	+
Ravena	Concrete tank at plant, treated water, 2:45 P. M.	4/ 3/14	5	25	110	100	.042	.122	Trace	0.60	1.50	39.0	30.0	5.80	50	−	−	−
Ravena	Tap, public supply, Park Hotel, 3:30 P. M.	4/ 3/14	8	20	82	72	.030	.116	Trace	0.60	2.00	37.7	29.0	3.40	80	−	−	−
Ray Brook	Tap at New York State Hospital for Incipient Pulmonary Tuberculosis	1/13/14	10	Clear	41	30	.022	.046	.005	0.70	0.63	28.6	13.0	2.90	35	−	−	−
Ray Brook	Tap at New York State Hospital for Incipient Pulmonary Tuberculosis	2/ 2/14	20	Trace	50	32	.046	.018	.003	0.70	0.75	28.6	11.0	4.00	70	−	−	−
Ray Brook	Tap at New York State Hospital for Incipient Pulmonary Tuberculosis	2/13/14	10	Clear	45	27	.010	.024	.002	0.60	0.38	16.9	13.0	2.80	65	−	−	−
Ray Brook	Tap at New York State Hospital for Incipient Pulmonary Tuberculosis	3/24/14	7	Clear	40	28	.030	.050	.001	0.40	0.37	18.2	12.0	2.40	100	−	−	−
Rensselaer	Tap at filter plant	1/21/14	10	2	148	122	.154	.036	.001	0.16	7.25	65.7	43.0	16.60	25	−	−	−
Rensselaer	Purified water	3/11/14	10	3	149	113	.148	.094	.002	0.14	6.50	78.6	42.0	12.80	16	−	−	−
Rensselaer	Effluent filter unit, No. 10	3/11/14													22	−	−	−
Rensselaer	Effluent filter unit, No. 4	3/11/14													30	−	−	−
Rensselaer	Raw water	4/ 7/14	35	10	91	54	.020	.146	.002	0.26	1.87	29.9	23.0	10.00	9,000	+	+	+
Rensselaer	Purified water	4/ 7/14	Trace	Trace	84	51	.022	.050	.002	0.26	2.25	35.1	10.0	2.90	2	−	−	−
Rhinebeck	Tap, public supply	3/16/14	Trace	1	193	181	.012	.016	.002	Trace	3.13	140.0	124.0	1.00	30	−	−	−
Richmondville	Tap, public supply, meat market	10/ 9/14	15	3	116	87	.008	.080	.001	0.20	2.00	70.0	60.0	2.60				
Richmondville	Tap, public supply, drug store	10/ 9/14	18	80	177	151	.012	.200	.001	0.80	2.25	71.4	60.0	6.20				
Richmondville	Tap, public supply, barber shop	10/15/14													50	+	−	−
Richmondville	Tap, public supply, meat market	10/15/14													30	+	−	−

Digitized by Google

ANALYTICAL RESULTS OF SAMPLES OF WATER — (*Continued*)

CITY, TOWN OR VILLAGE	Source	Date	Color	Turbidity	Residue on evaporation	Mineral residue	Nitrogen as — Free ammonia	Nitrogen as — Albuminoid ammonia	Nitrogen as — Nitrites	Nitrogen as — Nitrates	Chlorine	Hardness, total	Alkalinity	Oxygen consumed	Bacteria per c.c.	B. Coli Type (+ = Present) (− = Absent) 10 c.c.	1 c.c.	1-10 c.c.	1-100 c.c.
Portville	Tap, public supply	4/17/14	8	2	37	27	.020	.040	.001	0.24	0.87	18.2	12.0	1.50	5,000	−	−	−	..
Potsdam	Tap, public supply	5/15/14	40	5	35	20	.010	.104	.001	0.12	0.50	14.3	5.0	11.20	180	+	+	−	..
Poughkeepsie	State hospital, sample No. 1	2/25/14	...	...	...	...	...	...	...	...	...	...	...	...	5,600	+	+	+	+
Poughkeepsie	State hospital, sample No. 2	2/25/14	...	...	...	...	...	...	...	...	...	...	...	...	1,400	+	+	+	+
Poughkeepsie	State hospital, sample No. 3	2/25/14	...	...	...	...	...	...	...	...	...	...	...	...	2,300	+	+	+	..
Poughkeepsie	State hospital, sample No. 4	2/25/14	...	...	...	...	...	...	...	...	...	...	...	...	2,100	+	+	+	+
Poughkeepsie	State hospital, sample No. 5	2/25/14	...	...	...	...	...	...	...	...	...	...	...	...	450	+	+	+	..
Poughkeepsie	State hospital, sample No. 6	2/25/14	...	...	...	...	...	...	...	...	...	...	...	...	4,000	+	+	+	+
Poughkeepsie	State hospital, sample No. 7	2/25/14	...	...	...	...	...	...	...	...	...	...	...	...	950	+	+	+	−
Poughkeepsie	State hospital, sample No. 8	2/25/14	...	...	...	...	...	...	...	...	...	...	...	...	4,600	+	+	+	+
Poughkeepsie	State hospital, sample No. 9	2/25/14	...	...	...	...	...	...	...	...	...	...	...	...	1,900	+	+	+	+
Poughkeepsie	State hospital, sample No. 10	2/25/14	...	...	...	...	...	...	...	...	...	...	...	...	1,000	+	+	−	−
Poughkeepsie	State hospital, sample No. 11	2/25/14	...	...	...	...	...	...	...	...	...	...	...	...	600	+	+	+	−
Poughkeepsie	Tap, public supply	3/16/14	12	Clear	102	83	.022	.046	.002	0.24	4.25	77.1	47.0	6.40	50	−	−	−	..
Poughkeepsie	Hudson River State Hospital, general supply	8/ 7/14	18	Clear	102	72	.006	.018	.001	0.20	4.50	64.3	63.0	5.90	470	+	−	−	..
Poughkeepsie	Well on Moore farm	8/ 7/14	Trace	1	330	220	.002	.004	.005	4.80	5.75	188.6	150.0	0.50	90	+	+	−	..
Poughkeepsie	Well at Traver place, east farm	8/ 7/14	...	...	...	...	...	...	...	...	...	...	...	...	230	+	+	−	..
Poughkeepsie	Raw water	10/15/14	...	...	...	...	...	...	...	...	...	...	...	...	5,000	+	+	−	..
Poughkeepsie	Effluent of settling tank	10/15/14	...	...	...	...	...	...	...	...	...	...	...	...	1,200	+	+	+	..
Poughkeepsie	Tap at laboratory	10/15/14	...	...	...	...	...	...	...	...	...	...	...	...	10	−	−	−	..
Poughkeepsie	Tap, public supply	10/15/14	...	...	...	...	...	...	...	...	...	...	...	...	10	−	−	−	..
Poughkeepsie	Well of John G. Bahret	10/27/14	15	3	573	466	.010	.024	.010	18.00	60.00	335.5	179.0	0.80	...	...	...	...	..
Poughkeepsie	School well at Chapel corners	10/27/14	Trace	Trace	192	150	.012	.024	.008	2.80	17.75	131.4	75.0	1.00	...	...	...	...	..
Poughkeepsie	Fallkill creek, one-half mile north of dam	10/27/14	30	1	164	144	.016	.176	.001	0.04	4.50	92.9	40.0	6.80	...	...	...	...	..
Poughkeepsie	Fallkill pond, above dam	10/27/14	18	2	104	87	.016	.170	.001	0.04	2.75	80.0	60.0	5.15	...	...	...	...	..
Poughkeepsie	Well of Christian Bahret	10/27/14	Trace	2	254	239	.078	.008	.003	0.06	5.25	195.0	180.0	0.45	...	...	...	...	..
Poughkeepsie	Hudson River State Hospital, raw water	10/27/14	35	8	602	506	.022	.104	.002	0.06	240.00	100.0	74.0	9.30	...	...	...	...	..
Poughkeepsie	Hudson River State Hospital, filtered water	10/27/14	25	Clear	430	365	.004	.066	.003	0.06	150.00	105.8	76.0	8.35	...	...	...	...	..
Prattsburg	Reservoir, public supply	10/16/14	...	...	...	...	...	...	...	...	...	...	...	...	20	−	−	−	..
Prattsburg	Tap at well, public supply	10/16/14	...	...	...	...	...	...	...	...	...	...	...	...	110	+	+	+	..
Prattsburg	Tap, public supply	10/16/14	5	Clear	113	77	.010	.032	.002	0.70	1.38	70.0	70.0	2.40	15	+	−	−	..
Prospect	Tap, Hodge & Dodge supply	5/21/14	...	...	...	...	...	...	...	...	...	...	...	...	20	−	−	−	..

Digitized by Google

Prospect	Tap, Maxfield supply	5/21/14													10	−	−	−	
Pulaski	Tap, public supply	5/19/14	10	5	140	96	.012	.090	.002	0.20	2.50	64.3	63.0	2.70	900	+	+	−	
Randolph	Tap, public supply	7/28/14													550	+	−	−	
Ravena	Tap, public supply, Park Hotel, 8:20 A. M.	4/ 3/14	10	25	93	80	.020	.118	Trace	0.60	2.00	32.5	25.0	4.00	130	−	−	−	
Ravena	Raw water at dam, Hannacroix creek, 9:30 A. M.	4/ 3/14	10	15							1.25				1,700	+	+	+	
Ravena	Concrete tank at plant, treated water, 9:45 A. M.	4/ 3/14	10	22							1.62				48	−	−	−	
Ravena	Tap, public supply, Park Hotel, 10:00 A. M.	4/ 3/14													110	−	−	−	
Ravena	Concrete tank at plant, treated water, 11:00 A. M.	4/ 3/14													43	−	−	−	
Ravena	Tap, public supply, Park Hotel, 11:15 A. M.	4/ 3/14	8	20							2.00				75	−	−	−	
Ravena	Raw water at dam, Hannacroix creek, 12:00 M.	4/ 3/14													2,300	+	−	−	
Ravena	Concrete tank at plant, treated water, 12:15 P. M.	4/ 3/14	8	20							2.50				45	−	−	−	
Ravena	Tap, public supply, Park Hotel, 12:45 P. M.	4/ 3/14	8	20							2.00				170	−	−	−	
Ravena	Concrete tank at plant, treated water, 1:30 P. M.	4/ 3/14													50	−	−	−	
Ravena	Tap, public supply, Park Hotel, 2:15 P. M.	4/ 3/14													100	−	−	−	
Ravena	Raw water at dam, Hannacroix creek, 2:30 P. M.	4/ 3/14	10	20	99	86	.014	.128	.001	0.34	1.37	36.4	28.0	3.90	2,100	+	+	+	
Ravena	Concrete tank at plant, treated water, 2:45 P. M.	4/ 3/14	5	25	110	100	.042	.122	Trace	0.60	1.50	39.0	30.0	5.80	50	−	−	−	
Ravena	Tap, public supply, Park Hotel, 3:30 P. M.	4/ 3/14	8	20	82	72	.030	.116	Trace	0.60	2.00	37.7	29.0	3.40	80	−	−	−	
Ray Brook	Tap at New York State Hospital for Incipient Pulmonary Tuberculosis	1/13/14	10	Clear	41	30	.022	.046	.005	0.70	0.63	28.6	13.0	2.90	35	−	−	−	
Ray Brook	Tap at New York State Hospital for Incipient Pulmonary Tuberculosis	2/ 2/14	20	Trace	50	32	.046	.018	.003	0.70	0.75	28.6	11.0	4.00	70	−	−	−	
Ray Brook	Tap at New York State Hospital for Incipient Pulmonary Tuberculosis	2/13/14	10	Clear	45	27	.010	.024	.002	0.60	0.38	16.9	13.0	2.80	65	−	−	−	
Ray Brook	Tap at New York State Hospital for Incipient Pulmonary Tuberculosis	3/24/14	7	Clear	40	28	.030	.050	.001	0.40	0.37	18.2	12.0	2.40	100	−	−	−	
Rensselaer	Tap at filter plant	1/21/14	10	2	148	122	.154	.086	.001	0.16	7.25	65.7	43.0	16.60	25	−	−	−	
Rensselaer	Purified water	3/11/14	10	3	149	113	.148	.094	.002	0.14	6.50	78.6	42.0	12.80	16	−	−	−	
Rensselaer	Effluent filter unit, No. 10	3/11/14													22	−	−	−	
Rensselaer	Effluent filter unit, No. 4	3/11/14													30	−	−	−	
Rensselaer	Raw water	4/ 7/14	35	10	91	54	.020	.146	.002	0.26	1.87	29.9	23.0	10.00	9,000	+	+	+	
Rensselaer	Purified water	4/ 7/14	Trace	Trace	84	51	.022	.050	.002	0.26	2.25	35.1	10.0	2.90	2	−	−	−	
Rhinebeck	Tap, public supply	3/16/14	Trace	1	193	181	.012	.016	.002	Trace	3.13	140.0	124.0	1.00	30	−	−	−	
Richmondville	Tap, public supply, meat market	10/ 9/14	15	3	116	87	.008	.080	.001	0.20	2.00	70.0	60.0	2.60					
Richmondville	Tap, public supply, drug store	10/ 9/14	18	80	177	151	.012	.200	.001	0.80	2.25	71.4	60.0	6.20					
Richmondville	Tap, public supply, barber shop	10/15/14													50	+	−	−	
Richmondville	Tap, public supply, meat market	10/15/14													30	+	−	−	

Digitized by Google

ANALYTICAL RESULTS OF SAMPLES OF WATER — (*Continued*)

CITY, TOWN OR VILLAGE	Source	Date	Color	Turbidity	Residue on evaporation	Mineral residue	Nitrogen as — Free ammonia	Nitrogen as — Albuminoid ammonia	Nitrogen as — Nitrites	Nitrogen as — Nitrates	Chlorine	Hardness, total	Alkalinity	Oxygen consumed	Bacteria per c.c.	B. Coli Type (+ = Present) (— = Absent) 10 c.c.	1 c.c.	1-10 c.c.	1-100 c.c.
Portville	Tap, public supply	4/17/14	8	2	37	27	.020	.040	.001	0.24	0.87	18.2	12.0	1.50	5,000	—	—	—	..
Potsdam	Tap, public supply	5/15/14	40	5	35	20	.010	.104	.001	0.12	0.50	14.3	5.0	11.20	180	+	+	—	..
Poughkeepsie	State hospital, sample No. 1	2/25/14	...	...	...	...	...	...	...	...	...	...	...	...	5,600	+	+	+	+
Poughkeepsie	State hospital, sample No. 2	2/25/14	...	...	...	...	...	...	...	...	...	...	...	...	1,400	+	+	+	+
Poughkeepsie	State hospital, sample No. 3	2/25/14	...	...	...	...	...	...	...	...	...	...	...	...	2,300	+	+	+	..
Poughkeepsie	State hospital, sample No. 4	2/25/14	...	...	...	...	...	...	...	...	...	...	...	...	2,100	+	+	+	+
Poughkeepsie	State hospital, sample No. 5	2/25/14	...	...	...	...	...	...	...	...	...	...	...	...	450	+	+	+	..
Poughkeepsie	State hospital, sample No. 6	2/25/14	...	...	...	...	...	...	...	...	...	...	...	...	4,000	+	+	+	+
Poughkeepsie	State hospital, sample No. 7	2/25/14	...	...	...	...	...	...	...	...	...	...	...	...	950	+	+	+	—
Poughkeepsie	State hospital, sample No. 8	2/25/14	...	...	...	...	...	...	...	...	...	...	...	...	4,600	+	+	+	+
Poughkeepsie	State hospital, sample No. 9	2/25/14	...	...	...	...	...	...	...	...	...	...	...	...	1,900	+	+	+	+
Poughkeepsie	State hospital, sample No. 10	2/25/14	...	...	...	...	...	...	...	...	...	...	...	...	1,000	+	+	—	—
Poughkeepsie	State hospital, sample No. 11	2/25/14	...	...	...	...	...	...	...	...	...	...	...	...	600	+	+	+	—
Poughkeepsie	Tap, public supply	3/16/14	12	Clear	102	83	.022	.046	.002	0.24	4.25	77.1	47.0	6.40	50	—	—	—	..
Poughkeepsie	Hudson River State Hospital, general supply	8/ 7/14	18	Clear	102	72	.006	.018	.001	0.20	4.50	64.3	63.0	5.90	470	+	—	—	..
Poughkeepsie	Well on Moore farm	8/ 7/14	Trace	1	330	220	.002	.004	.005	4.80	5.75	188.6	150.0	0.50	90	+	+	—	..
Poughkeepsie	Well at Traver place, east farm	8/ 7/14	...	...	...	...	...	...	...	...	...	...	...	...	230	+	+	—	..
Poughkeepsie	Raw water	10/15/14	...	...	...	...	...	...	...	...	...	...	...	...	5,000	+	+	—	..
Poughkeepsie	Effluent of settling tank	10/15/14	...	...	...	...	...	...	...	...	...	...	...	...	1,200	+	+	+	..
Poughkeepsie	Tap at laboratory	10/15/14	...	...	...	...	...	...	...	...	...	...	...	...	10	—	—	—	..
Poughkeepsie	Tap, public supply	10/15/14	...	...	...	...	...	...	...	...	...	...	...	...	10	—	—	—	..
Poughkeepsie	Well of John G. Bahret	10/27/14	15	3	573	466	.010	.024	.010	18.00	60.00	335.5	179.0	0.80	...	...	...	...	..
Poughkeepsie	School well at Chapel corners	10/27/14	Trace	Trace	192	150	012	.024	.008	2.80	17.75	131.4	75.0	1.00	...	...	...	...	..
Poughkeepsie	Fallkill creek, one-half mile north of dam	10/27/14	30	1	164	144	.016	.176	.001	0.04	4.50	92.9	40.0	6.80	...	...	...	...	..
Poughkeepsie	Fallkill pond, above dam	10/27/14	18	2	104	87	.016	.170	.001	0.04	2.75	80.0	60.0	5.15	...	...	...	...	..
Poughkeepsie	Well of Christian Bahret	10/27/14	Trace	2	254	239	.078	.008	.003	0.06	5.25	195.0	180.0	0.45	...	...	...	...	..
Poughkeepsie	Hudson River State Hospital, raw water	10/27/14	35	8	602	506	.022	.104	.002	0.06	240.00	100.0	74.0	9.30	...	...	...	...	..
Poughkeepsie	Hudson River State Hospital, filtered water	10/27/14	25	Clear	430	365	.004	.066	.003	0.06	150.00	105.8	76.0	8.35	...	...	...	...	..
Prattsburg	Reservoir, public supply	10/16/14	...	...	...	...	...	...	...	...	...	...	...	...	20	—	—	—	..
Prattsburg	Tap at well, public supply	10/16/14	...	...	...	...	...	...	...	...	...	...	...	...	110	+	+	+	..
Prattsburg	Tap, public supply	10/16/14	5	Clear	113	77	.010	.032	.002	0.70	1.38	70.0	70.0	2.40	15	+	—	—	..
Prospect	Tap, Hodge & Dodge supply	5/21/14	...	...	...	...	...	...	...	...	...	...	...	...	20	—	—	—	..

Digitized by Google

Prospect	Tap, Maxfield supply	5/21/14													10	−	−	−	
Pulaski	Tap, public supply	5/19/14	10	5	140	96	.012	.090	.002	0.20	2.50	64.3	63.0	2.70	900	++	+	−	
Randolph	Tap, public supply	7/28/14													550	+	−	−	
Ravena	Tap, public supply, Park Hotel, 8:30 A. M.	4/ 3/14	10	25	93	80	.020	.118	Trace	0.60	2.00	33.5	25.0	4.00	130	−	−	−	
Ravena	Raw water at dam, Hannacroix creek, 9:20 A. M.	4/ 3/14	10	15							1.25				1,700	+	+	+	
Ravena	Concrete tank at plant, treated water, 9:45 A. M.	4/ 3/14	10	22							1.62				48	−	−	−	
Ravena	Tap, public supply, Park Hotel, 10:00 A. M.	4/ 3/14													110	−	−	−	
Ravena	Concrete tank at plant, treated water, 11:00 A. M.	4/ 3/14													43	−	−	−	
Ravena	Tap, public supply, Park Hotel, 11:15 A. M.	4/ 3/14	8	20							2.00				75	−	−	−	
Ravena	Raw water at dam, Hannacroix creek, 12:00 M.	4/ 3/14													2,300	+	−	−	
Ravena	Concrete tank at plant, treated water, 12:15 P. M.	4/ 3/14	8	20							2.50				45	−	−	−	
Ravena	Tap, public supply, Park Hotel, 12:45 P. M.	4/ 3/14	8	20							2.00				170	−	−	−	
Ravena	Concrete tank at plant, treated water, 1:30 P. M.	4/ 3/14													50	−	−	−	
Ravena	Tap, public supply, Park Hotel, 2:15 P. M.	4/ 3/14													100	−	−	−	
Ravena	Raw water at dam, Hannacroix creek, 2:30 P. M.	4/ 3/14	10	20	99	86	.014	.128	.001	0.34	1.37	36.4	28.0	3.90	2,100	+	+	+	
Ravena	Concrete tank at plant, treated water, 2:45 P. M.	4/ 3/14	5	25	110	100	.042	.122	Trace	0.60	1.50	39.0	30.0	5.80	50	−	−	−	
Ravena	Tap, public supply, Park Hotel, 3:30 P. M.	4/ 3/14	8	20	82	72	.030	.116	Trace	0.60	2.00	37.7	29.0	3.40	80	−	−	−	
Ray Brook	Tap at New York State Hospital for Incipient Pulmonary Tuberculosis	1/13/14	10	Clear	41	30	.022	.046	.005	0.70	0.63	28.6	13.0	2.90	35	−	−	−	
Ray Brook	Tap at New York State Hospital for Incipient Pulmonary Tuberculosis	2/ 2/14	20	Trace	50	32	.046	.018	.003	0.70	0.75	28.6	11.0	4.00	70	−	−	−	
Ray Brook	Tap at New York State Hospital for Incipient Pulmonary Tuberculosis	2/13/14	10	Clear	45	27	.010	.024	.002	0.60	0.38	16.9	13.0	2.80	65	−	−	−	
Ray Brook	Tap at New York State Hospital for Incipient Pulmonary Tuberculosis	3/24/14	7	Clear	40	28	.030	.050	.001	0.40	0.37	18.2	12.0	2.40	100	−	−	−	
Rensselaer	Tap at filter plant	1/21/14	10	2	148	122	.154	.086	.001	0.16	7.25	65.7	43.0	16.60	25	−	−	−	
Rensselaer	Purified water	3/11/14	10	3	149	113	.148	.094	.002	0.14	6.50	78.6	42.0	12.80	16	−	−	−	
Rensselaer	Effluent filter unit, No. 10	3/11/14													22	−	−	−	
Rensselaer	Effluent filter unit, No. 4	3/11/14													30	−	−	−	
Rensselaer	Raw water	4/ 7/14	35	10	91	54	.020	.146	.002	0.26	1.87	29.9	23.0	10.00	9,000	+	+	+	
Rensselaer	Purified water	4/ 7/14	Trace	Trace	84	51	.022	.050	.002	0.26	2.25	35.1	10.0	2.90	2	−	+	−	
Rhinebeck	Tap, public supply	3/16/14	Trace	1	193	181	.012	.016	.002	Trace	3.13	140.0	124.0	1.00	30	−	−	−	
Richmondville	Tap, public supply, meat market	10/ 9/14	15	3	116	87	.008	.080	.001	0.20	2.00	70.0	60.0	2.60					
Richmondville	Tap, public supply, drug store	10/ 9/14	18	80	177	151	.012	.200	.001	0.80	2.25	71.4	60.0	6.20					
Richmondville	Tap, public supply, barber shop	10/15/14													50	+	−	−	
Richmondville	Tap, public supply, meat market	10/15/14													30	++	−	−	

Digitized by Google

ANALYTICAL RESULTS OF SAMPLES OF WATER — (*Continued*)

CITY, TOWN OR VILLAGE	Source	Date	Color	Turbidity	Residue on evaporation	Mineral residue	Nitrogen as — Free ammonia	Nitrogen as — Albuminoid ammonia	Nitrogen as — Nitrites	Nitrogen as — Nitrates	Chlorine	Hardness, total	Alkalinity	Oxygen consumed	Bacteria per c.c.	B. Coli Type (+ = Present) (— = Absent) 10 c.c.	1 c.c.	1-10 c.c.	1-100 c.c.
Richmondville	Tap, public supply, health officer's office	10/15/14													230	+	—	—	..
Richmondville	Tap, public supply, drug store	10/15/14													90	+	—	—	..
Ripley	Tap, public supply	4/14/14	12	5	87	67	.010	.056	Trace	0.34	2.25	50.0	34.0	1.90	365	+	—	—	..
Rome	Tap at New York State Custodial Asylum	1/14/14	25	Clear	53	36	.004	.052	.002	0.30	0.50	33.8	27.0	5.20	65	—	—	—	..
Rome	Tap at New York State Custodial Asylum	3/24/14	20	Clear	55	44	.012	.058	Trace	0.70	0.75	29.9	23.0	4.80	35	—	—	—	..
Rome	Tap, public supply	4/27/14	40	5	51	26	.020	.104	.001	0.24	0.25	22.1	11.0	7.80	1,100	+	—	—	..
Rome	Tap, public supply	7/14/14													16,000	+	—	—	..
Rome	Tap, public supply	7/14/14													42,000	+	+	—	..
Rome	Tap, public supply	11/ 5/14													5,700	—	—	—	..
Roscoe	Tap, public supply	4/ 1/14	10	1	20	13	.006	.054	Trace	0.14	0.25	12.7	1.0	3.00	550	+	—	—	..
Roscoe	Reservoir	5/15/14													25,000	+	+	—	..
Roscoe	Tap, public supply	5/15/14	10	Clear	22	15	.026	.060	.001	0.12	0.50	11.1	6.0	2.40					
Rosendale	Tap, connected with still supply	3/26/14	5	Clear	79	61	.044	.056	.001	0.80	2.75	40.3	33.0	0.90	190	—	—	—	..
Rosendale	Tap, connected with Rosendale supply	3/26/14	10	2	68	48	.036	.056	.001	0.36	1.50	32.5	27.0	1.70	500	+	—	—	..
Round Lake	Tap, public supply	4/ 9/14	15	5	95	83	.020	.058	.001	0.14	0.75	70.0	66.0	3.00	600	+	—	—	..
Rouses Point	Tap, public supply	5/13/14	10	2	66	49	.004	.070	.001	0.14	1.25	39.0	37.0	4.00	100	+	—	—	..
Rouses Point	Tap, public supply, St. Patrick's school	10/ 8/14													45	—	—	—	..
Rouses Point	Tap, public supply, Cooter's house	10/ 8/14													7,600	+	+	—	..
Rouses Point	Tap, public supply, high school	10/ 8/14													4,700	+	—	—	..
Rouses Point	Treated water, pumping station	10/ 8/14	7	2	100	77	.012	.064	.001	0.06	0.88	70.0	45.0	4.10	2,600	+	—	—	..
Rouses Point	Raw water, suction line of pump	10/ 8/14	7	2	98	73	.012	.066	.001	0.06	1.13	67.1	43.0	4.40	2,100	+	+	—	..
Rye	Tap, public supply	3/18/14	18	1	49	36	.026	.116	Trace	0.80	3.00	18.2	7.0	4.50	200	+	—	—	..
Sag Harbor	Tap at pumping station	12/18/14	25	5	74	58	.062	.010	.001	0.02	7.50	29.9	28.0	1.30	10	—	—	—	..
Salamanca	Tap, public supply	4/16/14	7	15	40	18	.024	.088	.001	0.06	0.25	6.3	3.0	2.90	550	+	—	—	..
Salamanca	Tap, public supply	10/16/14													15	—	—	—	..
Salamanca	Tap, public supply	10/16/14													45	—	—	—	..
Sandy Creek	Tap, public supply	5/19/14	5	Clear	57	43	.008	.028	.001	0.36	1.25	35.1	28.0	1.30	160	+	+	—	..
Saratoga Springs	New Red spring	4/ 1/14													10	—	—	—	..
Saratoga Springs	Canfield, fresh water springs	5/21/14													70	—	—	—	..
Saratoga Springs	Loughberry lake, near inlet	8/15/14													95,000	+	+	—	..
Saratoga Springs	Loughberry lake, near intake	8/15/14	5	10	95	74	.004	.100	.001	0.04	0.75	70.0	70.0	6.50	3,400	+	—	—	..
Saratoga Springs	Tap, public supply	8/15/14	5	25	98	78	.004	.136	.002	0.04	0.75	78.6	76.0	4.20	60	+	—	—	..
Saugerties	Tap, public supply	3/26/14	12	5	30	20	.038	.092	.001	0.14	1.25	9.5	6.0	2.70	1,400	+	—	—	..
Saugerties	Tap, public supply	10/ 1/14	10	2	40	25	.006	.048	.001	0.04	2.13	16.9	11.0	1.40	20	—	—	—	..

Digitized by Google

Scarsdale	Tap, public supply	8/13/14													9,500	+	−	−	..
Schenectady	Tap, public supply	4/10/14	Trace	Trace	192	170	.016	.016	.001	0.50	4.50	137.2	122.0	1.30	6	−	−	−	..
Schroon Lake	Tap, public supply	7/22/14	20	Trace	55	41	.002	.036	.001	0.10	0.38	27.3	25.0	4.50	550	+	+	−	..
Schroon Lake	Bullet pond	7/22/14													70	−	+	−	..
Schuylerville	Tap, public supply	4/ 9/14	5	12	149	124	.008	.024	.001	0.36	1.00	100.0	92.0	0.80	850	+	+	−	..
Scotia	Tap, public supply	4/10/14	Trace	Trace	175	149	.004	.010	.001	0.90	2.75	125.8	98.0	0.50	2	−	+	−	..
Seneca Falls	Tap, public supply	1/14/14	Trace	40	342	304	.034	.082	.004	0.46	62.00	131.4	103.0	2.90	2,500	+	+	−	..
Seneca Falls	Tap, public supply	2/ 3/14	Trace	Clear	277	236	.028	.032	.002	0.60	52.50	142.8	105.0	1.80	160	−	−	−	..
Seneca Falls	Tap, public supply	5/ 1/14	Trace	2	261	220	.012	.072	Trace	0.46	49.00	108.6	100.0	1.50	140	−	−	−	..
Sherburne	Tap, public supply	3/ 4/14	7	Trace	56	39	.028	.044	.003	0.80	2.25	31.2	17.0	1.60	275	−	−	−	..
Sherburne	Tap, public supply	5/ 6/14	10	2	47	31	.028	.078	Trace	0.36	2.25	23.4	13.0	2.10	800	−	−	−	..
Sherman	Tap, public supply	4/15/14	5	Trace	143	113	.004	.042	.001	0.50	1.25	94.2	93.0	1.70	140	+	−	−	..
Sherman	Tap, public supply	12/10/14													100	+	−	−	..
Sherman	Tap, public supply	12/10/14	Trace	Trace	158	143	.008	.016	.003	0.60	2.50	137.2	125.0	0.50	180	+	−	−	..
Sidney	Tap, public supply	4/ 3/14	10	5	30	22	.010	.072	.001	0.26	1.00	16.9	4.0	2.60	500	+	+	−	..
Sidney	Tap at saw mill, East Guilford	8/ 5/10	10	2	51	36	.002	.024	.001	0.16	1.25	32.5	31.0	2.60	24,000	+	+	+	..
Sidney	Guilford creek at intake, at Madison's pond	8/ 5/10													2,000	+	+	+	..
Sidney	Peckham reservoir, near intake	8/ 5/10													300	+	+	+	..
Sidney	Collar brook supply, reservoir No. 1	8/ 5/10													250	+	+	+	..
Sidney	Tap, residence George Jarrett, Collar brook supply	8/ 5/10	Trace	Trace	31	24	.004	.004	.001	0.06	0.75	23.4	23.0	1.80	150	+	−	−	..
Sidney	New York, Ontario & Western Railroad shops, Collar brook supply	8/ 5/10													250	+	+	−	..
Sidney	Tap, bottling room, Phoenix Cheese Co., Peckham brook supply	8/ 5/10	50	5	62	50	.006	.116	.002	0.08	0.75	41.6	40.0	7.60	300	+	+	−	..
Sidney	Tap, residence Mrs. Brown, River street, Peckham brook supply	8/ 5/10													200	+	+	+	..
Sidney	Tap, residence George Elliott, River street, Peckham brook supply	8/ 5/10													200	+	+	−	..
Sidney	Tap, residence A. E. Corvey, Willow avenue, probably mixture	8/ 5/10	Trace	Trace	31	24	.004	.004	.001	0.12	0.75	22.1	20.0	1.60	250	+	+	−	..
Sidney	Tap, De Gumber Hotel, Main street, probably mixture	8/ 5/10													300	+	+	+	..
Silver Creek	Tap, public supply	4/13/14	15	15	92	78	.032	.080	Trace	0.44	1.50	47.1	36.0	3.00	130	+	+	−	..
Sinclairville	Tap, public supply	4/—/14	Trace	Trace	107	89	.018	.042	.001	0.70	1.75	68.6	67.0	1.50	90	+	−	−	..
Sloan	Tap, public supply	4/21/14	Trace	12	143	119	.014	.102	.001	0.14	7.25	95.7	86.0	2.40	200	−	−	−	..
Sloatsburg	Reservoir, Cranberry pond	10/29/14	70	10	105	56	.700	.232	.020	0.04	1.25	33.8	24.0	9.60	20,000	+	+	+	..
Sloatsburg	Tap, Taylor's inn	10/29/14													20,000	+	+	+	..
Sloatsburg	Nigger pond outlet	10/29/14													100	+	−	−	..
Smyrna	Tap, public supply	5/ 4/14	Trace	Trace	278	213	.012	.022	Trace	6.00	15.25	174.2	151.0	0.90	150	+	−	−	..
Solvay	Tap, public supply	5/20/14	5	Trace	150	129	.014	.114	.001	0.20	2.25	108.6	106.0	3.00	170	−	−	−	..
Sonyea	Tap, creek water supply, Craig Colony	1/16/14	2	Trace	252	223	.010	.030	.005	1.00	8.00	214.5	130.0	1.70	550	+	+	−	..
Sonyea	Tap, spring water supply, Craig Colony	1/16/14	Trace	Clear	504	458	.210	.032	.004	1.60	36.00	421.5	294.0	1.00	45	−	−	−	..
Sonyea	Tap, spring water supply, Craig Colony	2/26/14	Trace	Clear	500	425	.800	.044	.002	0.50	36.00	307.0	293.0	2.50	35	−	−	−	..
Sonyea	Tap, creek water supply, Craig Colony	2/26/14	Trace	Clear	276	232	.022	.040	.001	0.70	8.75	182.0	139.0	2.20	120	+	+	−	..
Sonyea	Tap, spring water supply, Craig Colony	3/24/14	Trace	Clear	480	413	.450	.030	.004	1.60	32.00	321.5	277.0	1.00	20	+	−	−	..
Sonyea	Tap, creek water supply, Craig Colony	3/24/14													20	−			..

Digitized by Google

ANALYTICAL RESULTS OF SAMPLES OF WATER — (*Continued*)

CITY, TOWN OR VILLAGE	Source	Date	Color	Turbidity	Residue on evaporation	Mineral residue	Nitrogen as — Free ammonia	Nitrogen as — Albuminoid ammonia	Nitrogen as — Nitrites	Nitrogen as — Nitrates	Chlorine	Hardness, total	Alkalinity	Oxygen consumed	Bacteria per c.c.	B. Coli Type (+ = Present) (— = Absent) 10 c.c.	1 c.c.	1-10 c.c.	1-100 c.c.
Sonyea	Tap, spring water supply, Craig Colony	8/ 7/14	Trace	Clear	530	465	.580	.010	.003	3.20	38.75	335.5	295.0	0.90	1,000	—	—	—	..
Sonyea	Tap, creek water supply, Craig Colony	8/ 7/14	5	5	301	241	.004	.010	.001	0.02	8.50	208.0	156.0	1.50	24,000	+	+	—	..
Sonyea	Tap, spring water supply, Craig Colony	8/13/14	Trace	Clear	514	463	.760	.006	.002	6.00	38.00	357.0	312.0	0.80	190	—	—	—	..
Sonyea	Tap, creek water supply, Craig Colony	8/13/14	5	2	256	206	.004	.004	.003	0.08	8.38	145.8	133.0	1.10	120	+	+	—	..
South Glens Falls	Tap, public supply	4/ 9/14	5	1	86	70	.016	.038	.002	1.30	2.50	39.0	28.0	1.50	275	+	+	—	..
South New Berlin	Tap, public supply	3/31/14	3	Clear	41	34	.030	.042	Trace	0.36	1.25	18.2	9.0	1.10	275	—	—	—	..
South Otselic	Tap, public supply	7/16/14	18	3	52	35	.004	.040	.002	0.02	0.63	19.5	17.0	4.90	18,000	+	+	+	..
Spring Valley	Tap, public supply	3/23/14	...	...	...	...	...	...	...	...	...	...	...	...	240	—	—	—	..
Springville	Tap, public supply	4/17/14	Trace	Clear	166	132	.014	.016	.001	1.50	2.00	120.0	113.0	0.70	15	—	—	—	..
St. Johnsville	Tap, public supply	11/28/14	5	2	125	112	.008	.046	.001	0.20	0.75	111.4	100.0	6.10	120	—	—	—	..
Stony Point	Tap, public supply	9/24/14	...	...	...	...	...	...	...	...	...	...	...	...	5,150	+	+	—	..
Stony Point	Reservoir, near dam	9/24/14	12	2	74	54	.018	.052	.003	0.06	3.25	33.8	33.0	2.80	275	+	+	—	..
Suffern	Tap, public supply	3/23/14	Trace	Trace	71	51	.030	.042	.001	0.20	3.25	44.3	29.0	1.50	60	—	—	—	..
Suffern	Antrim lake, west shore, near intake	10/29/14	18	2	142	100	.012	.106	.003	0.04	5.38	84.3	82.0	4.50	140	+	—	—	..
Suffern	Antrim lake reservoir, east shore	10/29/14	...	...	...	...	...	...	...	...	...	...	...	...	220	+	—	—	..
Suffern	Tap, public supply	10/29/14	...	...	...	...	...	...	...	...	...	...	...	...	65	+	—	—	..
Syracuse	Tap, State Institution for Feeble-Minded Children	1/ 6/14	Trace	2	122	99	.012	.020	.003	0.36	1.50	92.9	91.0	1.80	50	+	—	—	..
Syracuse	Tap, State Institution for Feeble-Minded Children	1/10/14	Trace	Clear	118	102	.012	.020	.003	0.40	1.75	94.3	94.0	0.80	65	—	—	—	..
Syracuse	Tap, State Institution for Feeble-Minded Children	2/ 9/14	5	2	123	105	.008	.018	.001	0.40	1.50	102.8	95.0	1.30	25	—	—	—	..
Syracuse	Tap, State Institution for Feeble-Minded Children	3/25/14	Clear	Trace	134	109	.016	.048	.001	0.40	1.50	94.2	95.0	1.20	20	—	—	—	..
Syracuse	Tap, State Institution for Feeble-Minded Children	7/ 6/14	5	Trace	127	105	.004	.022	Trace	0.46	1.50	91.4	91.0	0.70	50	—	—	—	..
Syracuse	Institution well	7/ 7/14	...	...	...	...	...	...	...	...	...	...	...	...	60	—	—	—	..
Syracuse	Tap, farm well	7/ 7/14	Trace	Clear	1,200	889	.004	.006	.003	4.40	4.00	714.0	222.0	0.60	30	—	—	—	..
Syracuse	Tap, State Institution for Feeble-Minded Children	7/ 7/14	5	Trace	132	104	.004	.014	.003	0.34	1.50	100.0	94.0	1.60	60	—	—	—	..
Tarrytown	Effluent of low service filters	3/17/14	...	...	...	...	...	...	...	...	...	...	...	...	90	—	—	—	..
Tarrytown	Effluent of high service filters	3/17/14	Trace	Clear	100	75	.056	.064	.001	0.16	6.75	47.1	30.0	1.50	55	—	—	—	..
Tarrytown	Raw water at filter plant	3/17/14	13	Trace	99	75	.068	.072	.002	0.20	6.00	39.0	34.0	2.40	550	—	—	—	..
Theresa	Tap, public supply	5/16/14	40	10	141	55	.020	.202	Trace	0.08	0.50	41.6	33.0	38.40	70	+	—	—	..

Digitized by Google

Thiells	Letchworth Village, tap at Rose cottage	1/15/14	12	Clear	21	12	.006	.006	.005	0.04	3.00	11.1	4.0	2.20	30	−	−	−	..
Thiells	Letchworth Village, south stream to reservoir	1/15/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	120	+	−	−	..
Thiells	Letchworth Village, north stream to reservoir	1/15/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	50	+	−	−	..
Thiells	Letchworth Village, north stream to reservoir	2/ 9/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	250	+	−	−	..
Thiells	Letchworth Village, south stream to reservoir	2/ 9/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	140	−	−	−	..
Thiells	Letchworth Village, tap at Rose cottage	2/ 9/14	15	Trace	37	28	.008	.006	.001	0.04	2.50	9.5	4.0	2.00	50	−	−	−	..
Thiells	Stream running to reservoir 100 feet	3/24/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	130	+	−	−	..
Thiells	Stream running to reservoir 50 feet	3/24/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	250	+	−	−	..
Thiells	Tap, kitchen, Rose cottage	3/24/14	25	2	25	20	.004	.012	.001	0.04	2.25	9.5	4.0	1.40	15	−	−	−	..
Ticonderoga	Tap, Lake George supply	5/12/14	5	12	57	41	.010	.058	.001	0.02	0.75	23.6	23.0	2.10	55	−	−	−	..
Ticonderoga	Tap, Chilson Lake	5/12/14	17	1	86	62	.004	.050	.001	0.04	0.25	40.3	40.0	3.70	100	+	−	−	..
Troy	High service supply	4/ 6/14	10	7	82	61	.032	.130	.002	0.60	1.50	33.8	21.0	3.80	4,200	+	−	−	..
Troy	Low service supply	4/ 6/14	10	10	92	61	.102	.114	.004	0.80	2.12	35.1	22.0	3.70	2,800	+	−	−	..
Tuckahoe	Tap, public supply	3/17/14	15	3	91	66	.034	.134	.001	0.74	6.62	48.6	30.0	4.60	25	−	−	−	..
Tupper Lake	Reservoir in woods	11/20/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	750	+	−	−	..
Tupper Lake	Tap, public supply	11/20/14	10	Clear	75	53	.044	.050	Trace	0.30	0.38	35.1	9.0	7.20	250	−	−	−	..
Tupper Lake	Racquette Pond	11/20/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8,600	+	+	+	..
Tupper Lake	Tap, public supply	11/20/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	−	−	−	..
Tuxedo	Tap, public supply	3/24/14	5	Trace	43	30	.008	.068	.001	0.06	2.75	23.4	14.0	2.90	200	−	−	−	..
Unadilla	Tap, Martin brook supply	4/ 2/14	8	10	34	23	.012	.116	Trace	0.36	0.75	11.1	2.0	3.50	700	+	−	−	..
Unadilla	Tap, Kilkenny supply	4/ 2/14	10	1	25	18	.014	.042	Trace	0.06	1.00	11.1	5.0	2.00	180	+	+	−	..
Union	Tap, public supply	4/29/14	Trace	Trace	47	25	.006	.012	.001	0.46	2.00	18.2	12.0	0.20	10	−	−	−	..
Utica	West Canada creek supply	5/ 4/14	20	2	34	19	.006	.054	Trace	0.20	0.50	12.7	6.0	5.30	30	−	−	−	..
Utica	Southern watershed supply	5/ 4/14	20	3	91	66	.006	.086	Trace	0.34	1.00	57.1	38.0	3.50	90	−	−	−	..
Valatie	Tap, public supply	5/ 7/14	27	3	55	41	.014	.134	.001	0.30	2.50	35.1	24.0	5.00	275	+	+	−	..
Victor	Tap, public supply	5/ 1/14	Trace	Clear	347	295	.016	.024	Trace	2.00	6.00	278.5	190.0	0.80	250	−	−	−	..
Walden	Tap, public supply	3/26/14	Trace	Trace	170	151	.040	.042	.001	0.24	2.00	125.8	119.0	0.50	325	−	−	−	..
Walton	Tap, public supply	3/31/14	7	3	28	17	.040	.076	.001	0.70	1.00	12.7	3.0	1.80	1,500	+	−	−	..
Walton	Kees creek reservoir	6/22/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	600	+	+	−	..
Walton	Brook at Nichols	6/22/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30,500	+	+	+	..
Walton	Brook below creamery	6/22/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	300,000	+	+	+	..
Walton	Howland spring	7/ 4/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	42,000	+	+	−	..
Warrensburg	Harrington brook	10/27/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	550	+	+	−	..
Warrensburg	Main reservoir on Harrington hill	10/27/14	25	Clear	55	40	.002	.068	.001	0.04	0.75	39.0	22.0	5.8	1,000	+	−	−	..
Warrensburg	Bennett brook, above reservoir	10/27/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	450	+	+	−	..
Warrensburg	Big brook, above reservoir	10/27/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	900	+	+	−	..
Warrensburg	Little brook intake	10/29/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40	−	−	−	..
Warrensburg	Reservoir, near intake	10/29/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	50	+	+	−	..
Warrensburg	Middle brook, at intake	10/29/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40	−	−	−	..
Warrensburg	Big brook, at intake	10/29/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	80	+	+	−	..
Warrensburg	Tap, public supply	10/29/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	45	+	−	−	..
Warwick	Tap, public supply	9/ 1/14	7	Trace	87	69	.002	.064	.001	0.08	1.25	58.6	55.0	4.60	55,000	+	+	+	..
Warwick	Lower reservoir	9/ 1/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13,000	−	−	−	..
Warwick	Middle reservoir	9/ 1/14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	22,500	+	+	+	..

Digitized by Google

ANALYTICAL RESULTS OF SAMPLES OF WATER — (*Concluded*)

CITY, TOWN OR VILLAGE	Source	Date	Color	Turbidity	Residue on evaporation	Mineral residue	Nitrogen as — Free ammonia	Nitrogen as — Albuminoid ammonia	Nitrogen as — Nitrites	Nitrogen as — Nitrates	Chlorine	Hardness, total	Alkalinity	Oxygen consumed	Bacteria per c.c.	B. Coli Type (+ = Present) (— = Absent) 10 c.c.	1 c.c.	1-10 c.c.	1-100 c.c.
Warwick	Brook at Housman place	9/ 1/14													61,000	+	+	+	..
Waterford	Tap, public supply	4/10/14	20	80	93	69	.016	.174	.001	0.20	1.37	28.6	23.0	12.60	6,200	+	+	+	..
Waterloo	Tap, public supply	5/ 1/14	Trace	40	304	259	.042	.080	.001	0.36	56.00	117.2	102.0	2.40	300	+	—	—	..
Waterloo	Tap, public supply	10/ 6/14	Trace	1	273	238	.006	.032	.001	0.16	62.50	114.2	99.0	2.20		+	+	—	..
Waterloo	Artesian well at parochial school	10/ 6/14														+	+	—	..
Waterloo	Tap, public supply, 16 West Main street	10/ 6/14														+	—	—	..
Waterloo	Tap, public supply, 35 East Main street	10/ 6/14														+	+	—	..
Watertown	Tap, public supply	5/18/14	Trace	Clear	66	50	.008	.052	Trace	0.10	0.75	36.4	14.0	3.70	350	—	—	—	..
Waterville	Spring on roadside	6/26/14	Trace	7	413	362	.008	.020	.003	4.80	11.25	264.5	239.0	1.60	2,900	+	+	+	..
Watkins	Tap, public supply	5/ 2/14	Trace	Trace	232	213	.022	.070	Trace	0.30	61.00	97.2	97.0	1.60	220	—	—	—	..
Watkins	Tap, public supply	5/12/14	Trace	Trace	250	223	.008	.054	Trace	0.34	60.00	105.8	97.0	1.20	160	—	—	—	..
Watkins Glen	Drinking fountain	7/14/14	Trace	1	208	179	.004	.004	.003	1.00	3.00	162.8	167.0	1.00	30	+	—	—	..
Watkins Glen	Rainbow Falls spring	7/14/14													20	—	—	—	..
Watkins Glen	Upper spring	7/14/14													210	+	—	—	..
Waverly	Tap, public supply	5/ 2/14	7	40	94	56	.022	.118	Trace	0.70	1.75	22.1	13.0	3.70	37,500	+	+	—	..
Wayland	Tap, public supply	12/29/14	Trace	Clear	190	169	.010	.010	.001	3.20	6.75	156.0	137.0	1.30	15	—	—	—	..
Webb	Tap, house, Fulton Chain	11/ 9/14													60	—	—	—	..
Wellsburg	Tap, public supply	5/ 2/14													90	—	—	—	..
Westfield	Tap, public supply	4/14/14	15	7	81	66	.010	.054	Trace	0.22	1.00	44.3	37.0	3.00	165	+	+	—	..
West Carthage	Tap, public supply	5/16/14	10	Trace	146	128	.006	.080	.001	0.12	1.00	122.8	124.0	3.10	90	+	—	—	..
West Haverstraw	Tap at New York State Hospital for Crippled and Deformed Children	1/19/14	12	2	60	42	.012	.034	.002	0.22	1.75	20.8	12.0	2.60	325	—	—	—	..
West Haverstraw	Tap at New York State Hospital for Crippled and Deformed Children	3/23/14	15	Clear	38	29	.008	.024	.001	0.10	2.25	16.9	8.0	2.10	550	—	—	—	..
West Haverstraw	Tap at New York State Hospital for Crippled and Deformed Children	6/18/14	7	Clear	55	31	.012	.074	.001	0.60	3.25	22.1	20.0	1.40	130	+	+	—	..
West Haverstraw	Tap, railroad station	9/24/14													2,200	+	—	—	..
West Haverstraw	Reservoir, near intake	9/24/14	5	3	128	103	.016	.028	.002	Trace	2.63	67.1	65.0	1.60	425	+	+	—	..
West Haverstraw	Tap at New York State Hospital for Crippled and Deformed Children	10/13/14	8	2	66	51	.036	.044	.001	0.10	3.13	36.4	33.0	1.75	240	+	—	—	..
West Point	Lusk reservoir, raw water	8/15/14													2,600	+	+	+	..
West Point	Filtered water	8/15/14													30,000	+	—	—	..
West Point	Lusk reservoir, unfiltered	10/17/14													40	+	—	—	..
West Point	Filter effluent No. 3	10/17/14													2	—	—	..	..

Digitized by Google

West Point	Filter effluent No. 4	10/17/14													4	−	−			
West Point	Clear house	10/17/14													6	−	−			
Westport	Tap, public supply	5/13/14	Trace	Trace	64	53	.004	.012	.001	0.10	0.50	41.6	38.0	1.00	30	−	−		−	
Whitehall	Tap, public supply	5/12/14	10	12	106	93	.012	.080	.001	0.26	1.25	61.4	57.0	2.30	775	+	+		−	
White Plains	Tap, public supply	3/17/14	Trace	Clear	169	159	.006	.010	Trace	0.80	4.25	91.4	86.0	1.20	25	−	−		−	
Whitesboro	Tap, public supply	5/ 5/14	7	2	157	128	.010	.066	Trace	0.46	3.50	112.8	108.0	2.50	300	−	−		−	
Whitney's Point	Tap, public supply	4/28/14	Trace	Clear	99	82	.008	.022	.001	0.50	0.87	70.0	71.0	0.80	100	−	−		−	
Willard	Well at Grand View	6/23/14													375	+	+		−	
Willard	Spring water tap	6/23/14													90	+	−		−	
Willard	Well at Sunnycroft	6/23/14													650	+	+		−	
Willard	Tap at laboratory	6/23/14	5	3	259	213	.006	.078	.001	0.24	58.00	108.6	97.0	0.90	150	+	−		−	
Wilmington	Tap, public supply	6/13/14	10	Trace	62	51	.002	.010	.001	0.10	0.50	26.0	23.0	1.90	500	+	+		−	
Williamsville	Tap, public supply	4/21/14	Trace	Trace	460	392	.014	.066	.001	0.90	9.50	307.0	128.0	1.10	120	+	−		−	
Williamsville	Well in street, front of Snyder's store	4/24/14													11,500	+	−		−	
Windsor	Tap, public supply	3/30/14	Trace	Trace	26	18	.006	.028	Trace	0.12	0.75	12.7	8.0	0.80	375	+	−		−	
Wurtsboro	Tap, public supply	3/24/14	10	3	33	17	.018	.054	.003	0.06	1.00	12.7	7.0	1.90	1,200	−	−		−	
Yonkers	Raw water, Saw Mill river	1/10/14													1,600	+	+	+	−	
Yonkers	Effluent filter No. 1	1/10/14													25	−	−		−	
Yonkers	Effluent filter No. 3	1/10/14													70	+	−		−	
Yonkers	Tap at pumping house, treated water	1/10/14													45	−	−		−	

Digitized by Google

Special Investigations

Diagnosis of Specimens

Owing to the numerous delays in receiving and reporting on material sent to the laboratory for the diagnosis of communicable disease, an investigation of the diagnostic service for a period of two months was undertaken. This comprised a reorganization of the routine procedure of collecting specimens from the mails and of conducting the examinations in the laboratory. Collections from the mail were made at night and all urgent reports sent as in routine by telegraph, charges collect. All reports were sent to both physicians and health officers whether sent by mail or by telegraph. The time that specimens coming from different cities and villages of the State took in transit under the conditions of laboratory service previously existing is recorded in the following tables.

Digitized by Google

DIPHTHERIA

PLACE	Distance (miles)	Number of specimens	Time in Transit			Remarks
			Minimum hours	Maximum hours	Average hours	
Adams Center	172	11	24	48	32½	
Albany	.....	5	3	21	10⅗	
Albion	259	1	48	48	48	
Altmar	145	1	42	42	42	
Amenia	63	19	4	48	17⅘	
Athens	22	1	74	74	74	Not on railroad.
Auburn	174	13	25	83	59	
Avoca	247	1	21	21	21	
Ballston Spa	39	5	20	25	22⅘	
Beacon (Fishkill)	84	1	24	24	24	
Belmont	294	8	½	127	55 5/10	
Benson Mines	303	1	25	25	25	
Binghamton	143	13	18	72	38	
Blasdell	304	3	34	56	46½	
Boonville	122	5	24	25	24½	
Brushton	274	1	120	120	120	
Burnt Hills	33	3	24	43	32	
Cattaraugus	357	1	57	57	57	
Catskill	32	1	38	38	38	
Chatham	22	1	48	48	48	
Clyde	185	7	24	47	38	
Coeymans	13	2	7	29	18	
Cohoes	9	12	17	48	26½	
Colton	247	1	72	72	72	Not on railroad; Albany to Potsdam
Cooperstown	102	3	9	32	22⅓	
Congers	113	9	14	96	46½	
Cornwall	89	1	49	49	49	
Cortland	186	9	17	47	28	
Coxsackie	21	1	10	10	10	
Croghan	158	1	19	19	19	
Cuyler	203	2	39	39	39	
Camden	127	1	22	22	22	
Canton	226	8	25	25	25	
Delevan	335	2	16	92	54	
Dobbs Ferry	123	4	20	91	40½	
Dolgeville	83	2	30	30	30	
Earlville	206	2	20	32	26	
East Avon	246	1	24	24	24	Not on railroad; Albany to Avon.
East Aurora	314	1	26	26	26	
East Rochester	220	5	27	116	55½	
Edwards	206		57	57	57	
Elizabethtown	128	2	21	56	36½	Not on railroad.
Elmira	202	365	11	162	46⅘	
Fair Haven	204	8	20	50	39	
Forestport	124	1	26	26	26	
Fairport	218	1	24	24	24	
Fayetteville	173	1	72	72	72	
Floral Park	160	2	35	73	54	
Fort Plain	58	1	21	21	21	
Frankfort	106	2	25	72	48½	
Fredonia	322	1	47	47	47	
Freeport	177	3	24	98	56⅓	
Fultonville	47	1	57	57	57	
Galway	32	1	20	20	20	Not on railroad; Albany to Ballston Spa.
Gardenville	.....	1	72	72	72	
Goshen	97	19	18	235	54⅘	
Gouverneur	192	45	19	68	39½⅘	
Grand Island	297	1	45	45	45	
Granville	107	1	10	10	10	
Greene	176	1	27	27	27	
Hamilton	124	1	44	44	44	
Hancock	195	1	17	17	17	
Herkimer	81	3	18	35	26½	
Hopewell Junction	97	1	21	21	21	

Digitized by Google

DIPHTHERIA — (*Continued*)

PLACE	Distance (miles)	Number of specimens	Time in Transit			Remarks
			Minimum hours	Maximum hours	Average hours	
Homer	189	3	23	116	55	
Holland	323	2	48	50	49	
Hoosick	30	1	10	10	10	
Hudson	28	37	1	51	25 1/6	
Hudson Falls	58	6	8	32	23 1/2	
Hamburg	311	2	19	25	22	
Ilion	77	2	24	32	28	
Jamestown	367	101	7	115	44 4/15	
Johnstown	49	22	17	64	36 2/3	
Lewiston	326	1	89	89	89	
Little Falls	73	7	19	48	27 1/2	
Locke	219	1	24	24	24	
Lockport	284	1	24	24	24	
Machias	341	1	49	49	49	
Marlboro	77	1	3	3	3	
Mayville	362	1	29	29	29	
McGraw	255	56	18	45	28 7/11	
Mechanicville	19	9	18	57	32 1/3	
Medina	269	3	22	34	28	
Meridian	196	1	25	25	25	Not to be found on railroad. Distance from Cato.
Mexico	195	1	48	48	48	
Middleburg	40	2	5	43	24	
Middleport	273	13	15	70	30 1/3	
Millbrook	114	1	32	32	32	
Milton	73	2	24	24	24	
Minoa	139	3	23	46	31 1/3	
Mohawk	75	1	13	13	13	
Mooers	188	6	12	53	34	
Mottville	164	2	72	72	72	Not in time table.
Moravia	192	1	39	39	39	
Mt. Upton	114	6	11	59	27 2/3	
Morrisville	133	1	24	24	24	
Malone	254	1	53	53	53	
New Berlin	42	1	24	24	24	
Newbridge	.....	1	50	50	50	Cannot be found. Not on railroad.
Newark	187	27	20	48	35 1/3	
New Hartford	99	1	25	25	25	
New Lebanon	41	1	49	49	49	
Norwich	128	21	12	78	37 1/3	
North Tarrytown	117	8	10	49	32 1/3	
North Tonawanda	296	3	26	48	33 1/3	
Norwood	232	25	18	55	38 7/11	
Nyack	172	5	24	34	27 1/3	
Olean	323	5	21	52	32 1/3	
Oneonta	82	8	11	41	24 1/3	
Orchard Park	308	1	25	25	25	
Ossining	112	16	10	72	34	
Oswego	179	3	35	52	43 1/3	
Owego	165	3	27	63	45	
Oxford	176	1	24	24	24	
Plattsburg	168	2	24	24	24	
Peekskill	101	18	11	53	34 1/3	
Piermont	168	2	20	23	21 1/2	
Pike	291	1	21	21	21	Not on railroad.
Pleasantville	120	16	9	72	30 2/3	
Port Byron	316	1	.....	.....	.....	Time in transit unknown.
Port Jervis	119	1	48	48	48	
Potsdam	247	2	96	154	125	
Poughkeepsie	69	6	19	25	22	
Pulaski	172	1	26	26	26	
Palmyra	205	1	27	27	27	
Rensselaer	½	47	1	72	23	
Rhinebeck	54	1	22	22	22	
Richmondville	50	1	25	25	25	

Digitized by Google

DIPHTHERIA — (*Concluded*)

PLACE	Distance (miles)	Number of specimens	Time in Transit			Remarks
			Minimum hours	Maximum hours	Average hours	
Riverhead	228	17	7	91	39 13/17	
Rockwood	53	2	44	44	44	Not on railroad.
Rome	109	44	18	49	28 3/4	
Rouses Point	191	4	11	48	32 1/4	
Sag Harbor	254	1	21	21	21	
Saugerties	42	4	8	24	17 3/4	
Scarsdale	131	1	34	34	34	
Schaghticoke	12	2	24	30	27	
Schenectady	17	3	24	24	24	
Scotia	51	1	48	48	48	
Shrub Oak	101	1	24	24	24	Not on railroad.
Silver Creek	335	2	19	43	31	
St. Johnsville	63	1	47	47	47	
Smithtown Branch	202	718	24	92	52 1/4	Not on railroad.
South Fallsburgh	102	5	17	35	28 1/2	
Spring Valley	128	1	1/4	1/4	1/4	
Suffern	127	26	14	77	33	
Tarrytown	117	3	27	27	27	
Ticonderoga	102	6	24	48	32 1/4	
Troy	6	4	1	53	34 3/4	
Truxton	163	7	24	181	102 1/2	
Utica	95	3	18	18	18	
Unadilla	99	1	51	51	51	
Voorheesville	11	2	24	24	24	
Warsaw	288	1	44	44	44	
Warwick	112	3	23	96	48	
Watervliet	5	26	11	72	39	
Wantagh	181	1	96	96	96	
Waverly	144	6	70	70	70	
Wellsville	286	1	24	24	24	
Westfield	355	1	24	24	24	
White Plains	128	10	11	57	28	
Woodstock	42	2	46	46	46	
Williamson	226	1	27	27	27	
Waterloo	192	1	24	24	24	
Wilson	322	1	72	72	72	
Weavertown	96	1	22	22	22	Not on railroad.
Wayland	266	5	34	48	41	
Williamsville	311	3	35	72	49 3/4	
Perry	285	38	20	76	34 3/4	

Digitized by Google

TUBERCULOSIS

PLACE	Distance (miles)	Number of specimens	Time in Transit			Remarks
			Minimum hours	Maximum hours	Average hours	
Akron	289	3	24	24	24	
Adams Center	172	5	24	72	48	
Ancram	99	3	24	72	48	
Antwerp	201	2	24	24	24	
Andover	278	4	24	6 days	72	
Amenia	63	1	24	24	24	
Alexandria Bay	196	2	48	48	48	
Albion	259	2	24	24	24	
Ausable Forks	187	3	24	72	48	
Alfred	280	4	24	72	48	
Accord	239	1	24	24	24	
Altmar	145	1	24	24	24	
Apalachin	157	1	72	72	72	
Alden	325	3	24	5 days	64	
Angola	319	3	24	72	48	
Arcade	332	1	96	96	96	
Afton	114	2	48	48	48	
Angelica	314	1	....	.....	.....	Time of transit unknown.
Bainbridge	108	3	24	48	36	
Burke	244	3	24	48	36	
Broome	.....	1	48	48	48	Not on railroad.
Beacon	84	7	24	48	36	
Ballston Spa	32	3	24	24	24	
Belmont	305	2	24	48	36	
Berlin	58	1	24	24	24	
Brewster	183	2	24	48	36	
Bemus Point	374	1	24	24	24	
Bloomingburg	282	1	48	48	48	
Batchellerville	69	1	24	24	24	
Benson Mines	303	1	24	24	24	
Bolton Landing	78	1	24	24	24	
Colden	319	1	24	24	24	
Cato	188	1	24	24	24	
Cortland	186	10	24	7 days	91	
Cohoes	9	4	24	48	36	
Catskill	32	4	24	48	36	
Clarence	295	1	24	24	24	
Cuba	384	1	.....	.....	.....	17 days.
Cohocton	254	3	24	96	60	
Castile	356	2	24	48	36	
Carthage	161	1	48	48	48	
Chasy	184	3	24	48	36	
Canon	.....	1	24	24	24	Not on railroad.
Cooperstown	102	7	24	5 days	72	
Cheviot	38	1	24	24	24	
Coxsackie	21	2	24	24	24	
Cincinnatus	203	3	24	9 days	122	
Canisteo	247	1	.....	.....	.....	Time in transit unknown.
Chester	105	3	48	48	48	
Charlotteville	62	2	48	48	48	
Canton	226	2	24	48	36	
Caledonia	361	1	48	48	48	
Chasm Falls	244	3	24	72	48	
Cambridge	191	4	24	48	36	
Colton	247	2	48	96	72	
Canandaigua	222	1	.....	.....	.....	Time in transit unknown.
Candor	173	2	48	48	48	
Canajoharie	54	2	48	48	48	
Clayville	107	1	24	24	24	
Clyde	185	1	5 days	5 days	5 days	
Cairo	45	2	48	48	48	
Churubusco	231	4	48	96	72	
Caughdenoy	184	1	96	96	96	
Cleveland	140	2	48	48	48	

Digitized by Google

TUBERCULOSIS — (*Continued*)

PLACE	Distance (miles)	Number of specimens	Time in Transit			Remarks
			Minimum hours	Maximum hours	Average hours	
Cassadaga	353	1	24	24	24	
Clinton	104	1	48	48	48	
Central Square	165	1	24	24	24	
Cold Spring	91	1	24	24	24	
Dryden	210	3	24	96	56	
Duanesburgh	29	1	12	12	12	
Dundee	233	3	24	48	36	
Dickinson Center	248	2	24	48	36	
Deansboro	108	1	48	48	48	
Deposit	182	3	24	96	60	
Dolgeville	83	1	96	96	96	
Delmar	6	1	48	48	48	
Delhi	241	1	24	24	24	
Dobbs Ferry	123	1	72	72	72	
Edwards	206	2	24	48	36	
Ellicottville	349	3	96	96	96	
Endicott	150	1	96	96	96	
East Rochester	220	5	24	72	48	
Ellenbury Center	.....	1	.....	.....	.....	10 days in transit. Not on railroad.
Eden	314	1	24	24	24	
Fredonia	342	1	24	24	24	
East Hampton	245	1	72	72	72	
Elbridge Village	165	1	.....	.....	.....	Time in transit unknown.
East Aurora	314	1	.....	.....	.....	Time in transit unknown.
Elmsford	218	1	.....	.....	.....	6 days in transit.
Frankfinville	346	2	48	48	48	
Frankfort	106	8	24	96	60	
Farmingdale	185	5	48	48	48	
Franklin	114	1	24	24	24	
Freeport	177	6	24	6 days	76¾	
Fulton	172	10	24	6 days	78	
Farnham	324	1	72	72	72	
Fultonville	47	1	.....	.....	.....	Time in transit unknown.
Fort Plain	58	1	.....	.....	.....	Time in transit unknown.
Fishkill	90	1	.....	.....	.....	Time in transit unknown.
Forestport	124	2	48	48	48	
Forestville	336	4	72	72	72	Cannot estimate number of miles.
Floral Park	160	1	.....	.....	.....	Time in transit unknown.
Fort Covington	266	1	48	48	48	
Fayetteville	173	1	24	24	24	
Fairport	234	1	96	96	96	
Fonda	43	1	.....	.....	.....	Time in transit unknown.
Fultonham	50	2	24	48	36	Not on railroad. Distance from Richmondville.
Garrettsville	135	2	5 days	7 days	.....	Not on railroad. Distance from Sidney.
Gouverneur	202	10	24	72	48	
Germantown	38	2	24	48	36	
Granville	107	6	24	96	56	
Green Island	7	2	24	24	24	
Greenville	21	2	72	72	72	Not on railroad. Distance from Coxsackie.
Great Bend	167	1	.....	.....	.....	Time in transit unknown.
Glen	43	3	24	24	24	Not on railroad. Distance from Fonda.
Great Valley	276	1	48	48	48	
Gowanda	331	2	24	24	24	

Digitized by Google

TUBERCULOSIS — (*Continued*)

PLACE	Distance (miles)	Number of specimens	Time in Transit			Remarks
			Minimum hours	Maximum hours	Average hours	
Gerry	363	1	24	24	24	
Gardenville	.....	1	48	48	48	Not on railroad.
Guilderland Center	30	1	48	48	48	
Goshen	97	1	.....	.....	.....	Time in transit unknown.
Geneva	199	2	.....	.....	.....	Time in transit unknown.
Gorham	209	1	72	72	72	
Hastings-on-Hudson	123	1	24	24	24	
Hudson	28	6	24	.....	.....	
Homer	189	2	48	6 days	96	
Hurleyville	102	4	48	7 days	108	Not on railroad. Distance from Fallsburg.
Hamden	135	1	48	48	48	
Hamlet	271	2	24	96	60	Not on railroad. Distance from South Dayton.
Herkimer	81	7	24	48	36	
Hancock	195	3	24	9 days	120	
Heuvelton	215	1	24	24	24	
Hobart	118	1	48	48	48	
Hulberton	.....	2	24	48	36	Not on railroad.
Hopewell Junction	97	1	24	24	24	
Haverstraw	109	2	24	24	24	
Hyde Park	63	2	24	48	36	
Hoosick	30	3	48	72	60	
Hoosick Falls	33	7	24	48	36	
Highland Falls	95	3	24	72	48	
Helena	265	2	24	48	36	
Ithaca	197	12	24	5 days	88	
Ilion	77	8	24	24	24	
Jamestown	367	14	24	96	.....	
Jamesport	223	1	.....	.....	.....	Time in transit unknown.
Jacksonville	226	1	24	24	24	Not on railroad. Distance from Ithaca via Geneva.
Johnstown	49	4	24	48	36	
Jay	187	1	.....	.....	.....	Time unknown. Not on railroad. Distance from Ausable Forks.
Katonah	109	1	48	48	48	
Kingston	53	21	24	48	36	
Kinderhook	24	2	24	24	24	
Kendall	260	4	24	72	48	
Kings Ferry	201	1	72	72	72	
Knowlesville	264	3	24	48	36	
Kennedy	358	1	48	48	48	
Keene	207	2	48	48	48	
Lackawanna	302	2	24	24	24	
Livingston Manor	175	7	21	18 days	129	
Lancaster	238	2	72	72	72	
Lake Placid	251	9	48	120	80	
Little Falls	73	14	24	48	36	
Lake Pleasant	69	1	.....	.....	.....	Time in transit unknown. Not on railroad. Distance from Northville via Fonda.
Long Lake	123	1	48	48	48	Not on railroad. Distance from S. Lake West.
Lockport	284	14	24	120	72	
Laurens	89	1	120	120	120	
Lawrence	174	6	24	48	36	

Digitized by Google

TUBERCULOSIS — (*Continued*)

PLACE	Distance (miles)	Number of specimens	Time in Transit			Remarks
			Minimum hours	Maximum hours	Average hours	
Lewiston	326	6	48	96	72	
Louisville	266	1	72	72	72	Not on railroad. Distance from Massena Springs.
Lyons	193	2	24	96	60	
Little Valley	316	10	24	48	36	
Lyon Mountain	202	2	48	7 days	108	
Lowville	143	2	24	24	24	
La Salle	314	1	48	48	48	
Ludlowville	220	1	72	72	72	
Lisle	165	1	.....	.....	.....	Time in transit unknown.
Livingston	38	1	24	24	24	Not on railroad. Distance from Germantown.
Leeds	37	1	72	72	72	
Long Eddy	211	1	8 days			
Livonia	283	2	24	96	60	
Milton	73	2	24	72	48	
Massena	245	8	24	48	36	Not on railroad. Distance from Massena Springs.
Mechanicville	19	1	24	24	24	
Madrid	298	2	24	24	24	
Marathon	172	2	48	48	48	
Moravia	192	4	24	120	72	
Montgomery	76	1	48	48	48	
Middleport	273	1	24	24	24	
Millbrook	114	3	24	24	24	
Monticello	119	19	24	72	48	
Malone	254	4	24	48	36	
Marlboro	77	1	24	24	24	
Mohawk	75	3	48	96	72	
Mineola	173	2	24	48	36	
Morristown	232	3	24	24	24	
Milford	.....	4	24	48	36	Not on railroad.
Macedon	210	3	24	72	48	
Mahopac	192	1	.....	.....	.....	Time in transit unknown.
Montezuma	166	2	24	24	24	
Middleville	89	2	48	48	48	
Mt. Upton	114	1	24	24	24	
Mooers Forks	209	3	24	72	48	
Maryland	71	2	72	72	72	
Mooers	209	2	48	72	60	Not on railroad. Distance from Mooers Forks.
Martinsville	310	1	96	96	96	
Newark	187	11	24	72	48	
North Tonawanda	296	24	24	120	66	
Nyack	172	4	24	96	64	
Norwood	232	8	24	96	60	
North Collins	320	1	24	24	24	
New Rochelle	159	10	24	7 days	96	
Newburgh	85	11	24	48	36	
Nunda	276	1	24	24	24	
New Windsor	88	1	24	24	24	
New Lebanon	41	3	24	48	36	
New Berlin	42	3	24	96	60	
Newcomb	96	1	.....	.....	.....	Time in transit unknown. Not on railroad. Distance from North Creek.
Northville	69	2	.....	.....	.....	Time in transit unknown.
Newport	94	2	24	24	24	
New Haven	190	1	24	24	24	
New Paltz	68	2	48	48	48	
Oneonta	82	5	24	24	24	

Digitized by Google

TUBERCULOSIS — (*Continued*)

PLACE	Distance (miles)	Number of specimens	Time in Transit			Remarks
			Minimum hours	Maximum hours	Average hours	
Olean	323	25	24	14 days	127	
Oswego	119	2	24	72	48	
Owego	165	6	24	48	36	
Ogdensburg	221	9	24	72	48	
Oriskany Falls	111	2	24	48	36	
Old Forge	148	1	.....	.....	.....	Time in transit unknown.
Ossining	112	2	48	48	48	
Oyster Bay	188	1	48	48	48	
Oxford	176	4	24	96	60	
Otto	307	1	.....	.....	.....	Time in transit unknown. Not on railroad. Distance from Cattaraugus.
Orchard Park	308	1	24	24	24	
Oswegatchie	199	1	24	24	24	
Pleasantville	120	5	24	72	48	
Peekskill	101	38	24	72	48	
Peakville	73	1	24	24	24	
Phelps	287	3	24	24	24	
Portville	328	1	48	48	48	
Potsdam	247	6	24	120	64	
Port Jervis	119	7	24	7 days	80	
Perry	285	5	24	48	36	
Pike	291	1	48	48	48	Not on railroad. Distance from Gainesville.
Plattsburg	168	8	24	48	36	
Pavilion	261	1	24	24	24	
Purdy's Station	104	1	48	48	48	
Port Ewen	56	2	24	48	36	
Pitcher	213	2	24	5 days	72	Not on railroad. Distance from Cincinnatus.
Penn Yan	218	2	24	24	24	
Putnam Station	96	2	24	5 days	72	
Petersburg	63	2	48	48	48	
Palmyra	205	1	48	48	48	
Porter	.....	2	24	24	24	Not on railroad.
Pulaski	172	1	48	48	48	
Patchogue	206	1	24	24	24	
Philmont	31	1	.....	.....	.....	Time in transit unknown.
Rotterdam	19	2	24	5 days	72	
Rome	109	37	24	72	48	
Rensselaer	½ mile	2	48	72	60	
Rose	210	1	24	24	24	Via Oswego.
Richmondville	50	2	.....	.....	.....	Time in transit unknown.
Richfield Springs	131	2	24	48	36	
Ripley	362	4	24	72	48	
Red Creek	200	1	24	24	24	
Richmond	161	1	48	48	48	Not on railroad.
Rhinebeck	54	1	24	24	24	Via Rhinecliff.
Rensselaer Falls	224	1	48	48	48	
Ransomville	261	2	96	96	96	
Southampton	234	6	24	72	48	
Springville	319	2	72	96	84	
Schuylerville	50	1	24	24	24	
Seneca Falls	189	4	24	5 days	64	
Silver Springs	353	1	24	72	48	
Saratoga Springs	38	8	12	72	39	
Silver Creek	335	4	24	72	48	
Stephentown	47	1	24	24	24	
Salem	126	4	24	24	24	
Salamanca	322	7	24	72	48	
Suffern	127	3	24	48	36	
Savannah	179	10	24	120	72	
South Glens Falls	60	1	48	48	48	Via Glens Falls.

Digitized by Google

TUBERCULOSIS — (*Continued*)

PLACE	Distance (miles)	Number of specimens	Time in Transit			Remarks
			Minimum hours	Maximum hours	Average hours	
South Otselic	122	1	24	24	24	Not on railroad. Distance from Smyrna.
South Hartford	107	2	24	24	24	Not on railroad. Distance from Granville.
Sag Harbor	254	2	24	24	24	
Sodus	220	5	24	72	48	
South Butler	205	1	48	48	48	Not on railroad. Distance from Wolcott.
Schroon Lake	96	2	48	48	48	Not on railroad. Distance from South Creek.
Spring Valley	128	3	24	72	48	
Sherburne	196	1	48	48	48	
Scarsdale	131	1	96	96	96	
Schenevus	67	2	24	48	36	
Stone Ridge	57	1	72	72	72	
St. Regis Falls	242	1	48	48	48	
St. Johnsville	63	3	24	72	48	
Sharon Springs	58	1	24	24	24	
South Bethlehem	9	1	24	24	24	
South Fallsburg	102	2	24	24	24	
Shelter Island	246	1	72	72	72	
Stamford	127	1	.....	.....	.....	Time in transit unknown.
Scotia Village	51	1	24	24	24	
Ticonderoga	102	5	24	72	48	
Taughannock Falls	231	2	24	24	24	
Tonawanda	286	1	48	48	48	
Three Mile Bay	195	1	24	24	24	
Tarrytown	119	3	96	96	96	
Theresa	183	1	24	24	24	
Turin	139	1	48	48	48	Not on railroad. Distance from Lyons Falls.
Unadilla	99	1	.....	.....	.....	Time in transit unknown.
Voorheesville	11	5	24	48	36	
Valley Falls	20	1	24	24	24	
Van Etten	237	1	24	24	24	
Verona	117	2	24	72	48	
Vailsgate	90	1	24	24	24	
Virgil	.....	1	24	24	24	Not on railroad.
Watervliet	5	18	24	72	48	
Waterloo	192	2	24	24	24	
Whitehall	78	3	48	48	48	
Watertown	179	7	24	72	48	
Wevertown	96	1	24	24	24	Not on railroad. Distance from North Creek.
Woodstock	42	1	24	24	24	
Wallkill	79	3	12	48	28	
Westfield	355	2	24	72	48	
Williamstown	123	4	24	48	36	
Walton	104	1	24	24	24	
Wappinger Falls	69	2	96	96	96	Via Poughkeepsie.
Weston	50	1	.....	.....	.....	Time in transit unknown.
Winthrop	277	1	.....	.....	.....	Time in transit unknown.
West Oneonta	85	1	24	24	24	
Wales Center	314	1	.....	.....	.....	Time in transit unknown. Not on railroad. Distance from East Aurora.
Wyoming	266	1	48	48	48	
Willsboro	149	.....	.....	.....	.....	
Walden	82	5	24	48	36	
Watkins	244	2	72	72	72	

Digitized by Google

TUBERCULOSIS — (*Concluded*)

PLACE	Distance (miles)	Number of specimens	Time in Transit			Remarks
			Minimum hours	Maximum hours	Average hours	
Williamsville	311	2	24	72	48	
White Plains	108	4	48	72	60	
Warsaw	304	1	24	24	24	
Union Springs	185	2	48	48	48	
Wadhams	131	2	24	24	24	
Wellsville	286	1	24	24	24	
Windsor	131	2	72	6 days	108	
West Chazy	131	2	24	24	24	
Westport	128	1	48	48	48	
Yorktown Heights	200	2	24	120	72	
Youngstown	318	2	24	48	36	

Further special investigations, with the view to improving the efficiency of the diagnostic service of the year 1914, related to the isolation and identification of the different strains of diphtheria and pseudo diphtheria bacilli from cultures sent to the laboratory from cases of diphtheria and from carriers who were convalescing from the disease or who had never developed symptoms of infection. These investigations were carried on by the following members of the laboratory staff: Dr. W. A. Bing, Miss Ruth Gilbert, Miss Mary B. Kirkbride, and subsequently by Dr. W. E. Youland and Miss Mae Larkin. These investigations will be continued.

Examination of Water Supplies

Special investigations of the sewage disposal plant at Ballston Spa were undertaken January 5, 1914.

Owing to the large consumption of water and the physical condition of the secondary filters at the Albany Filter Plant, some of the water distributed in Albany was "bypassed" from the preliminary filters to the pure water basin where it was treated with hypochlorite of lime. Accordingly, a special investigation of the Albany water by Mr. L. M. Wachter was carried on from January 20 to 29 and February 5, 6 and 9.

Further special investigations of the sanitary quality of water supplied to different communities in the State were undertaken

Digitized by Google

on March 9 at Ravena, on June 15 at Peekskill, and August 5 at Sidney, by Mr. L. R. Milford. Mineral analyses of the Saratoga waters under the jurisdiction of the Saratoga State Reservation Commission, were made by Mr. Herbert Ant, and Mr. L. R. Milford, under the supervision of Mr. L. M. Wachter. These with field inspections of the sources of these waters, were part of the laboratory routine until October 1, when Mr. Ant took charge of the work of the laboratory of the Saratoga Reservation Commission at Saratoga.

The results of the sanitary analyses of samples taken in the course of these investigations are recorded in the list of examinations of water.

Examination of Smallpox Vaccine

Cases of tetanus developing after vaccination, however remotely associated with this vaccination, were fully investigated. Samples of the supply of vaccine used to vaccinate these cases were obtained and examined carefully in the laboratory by Miss Anna I. Van Saun. Part of this vaccine was also forwarded to the laboratory of the U. S. Public Health Service at Washington. The vaccine was cultivated under aerobic and anerobic conditions on different media and injected into guinea pigs and mice. In none of the specimens was there any evidence that tetanus organisms were present or had been present.

Miscellaneous Examinations

June 15 a specimen of ham was received from Dr. J. William Davis of Livingston Manor. Cases of food poisoning were attributed to this ham. The symptoms were those of gastrointestinal disturbance, according to the report of Dr. Davis. There were no deaths and the symptoms were evanescent. The bacterial investigation of the ham by Miss Mary B. Kirkbride revealed the presence of the bacillus botulinus.

October 19, 1914, Dr. Charles G. Duryee sent to the laboratory a sample of cheese which was supposedly the cause of serious cases of cheese poisoning at Roseboom. Three persons who had eaten the cheese died. The symptoms in all these cases corresponded accurately with the descriptions of botulism. Mrs. Mary

Digitized by Google

Nevin isolated and identified the bacillus botulinus in her bacterial investigations of the cheese.

Other special investigations comprised the testing of disinfectants and disinfecting appliances, and preparations suspected of being adulterated, impure, or injurious to health.

In the following charts the laboratory work during 1913 and 1914 is plotted each month for purposes of comparison.

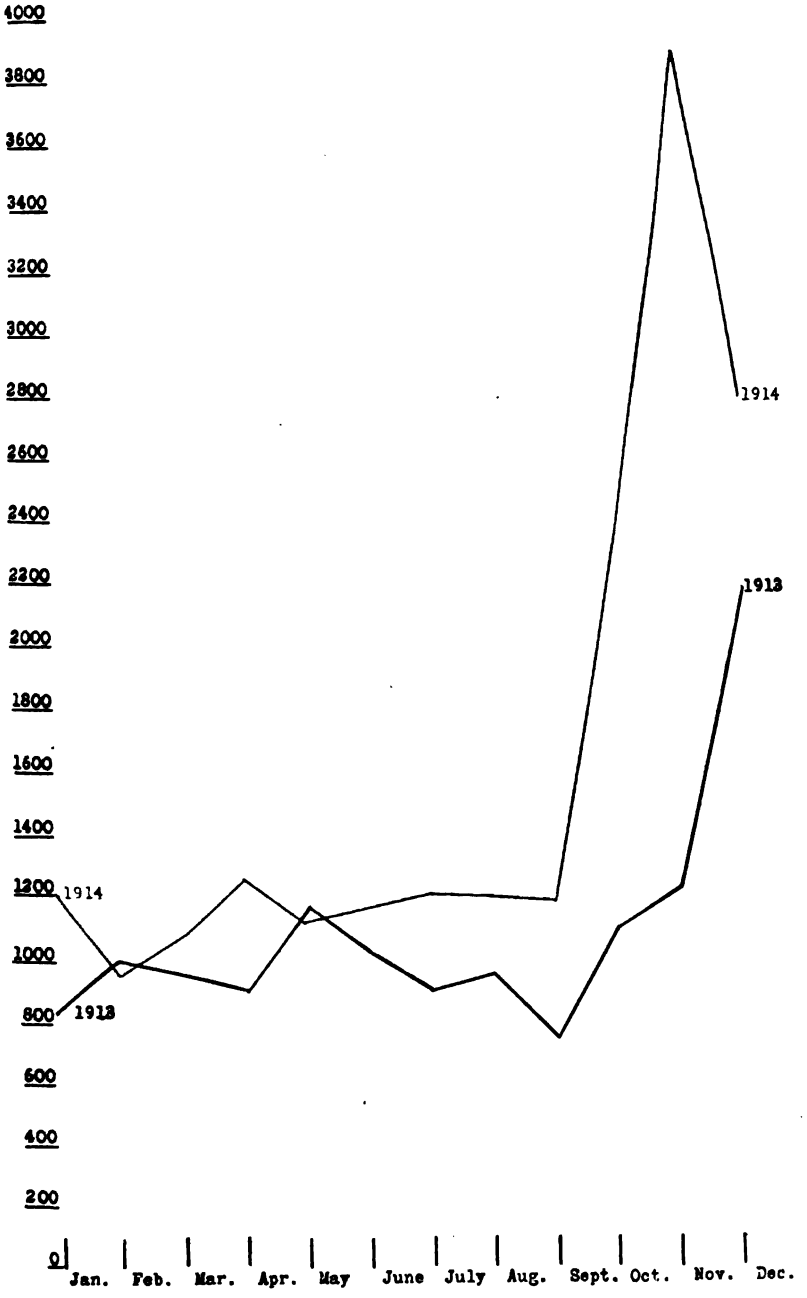
Diagnostic examinations.

Distribution of laboratory supplies.

Distribution of antitoxin (diphtheria and tetanus).

During the last seven months when the increase in the laboratory work was greatest the record of attendance showed that the average overtime of the scientific staff was 31 per cent., of the office staff and of other workers 14 per cent.

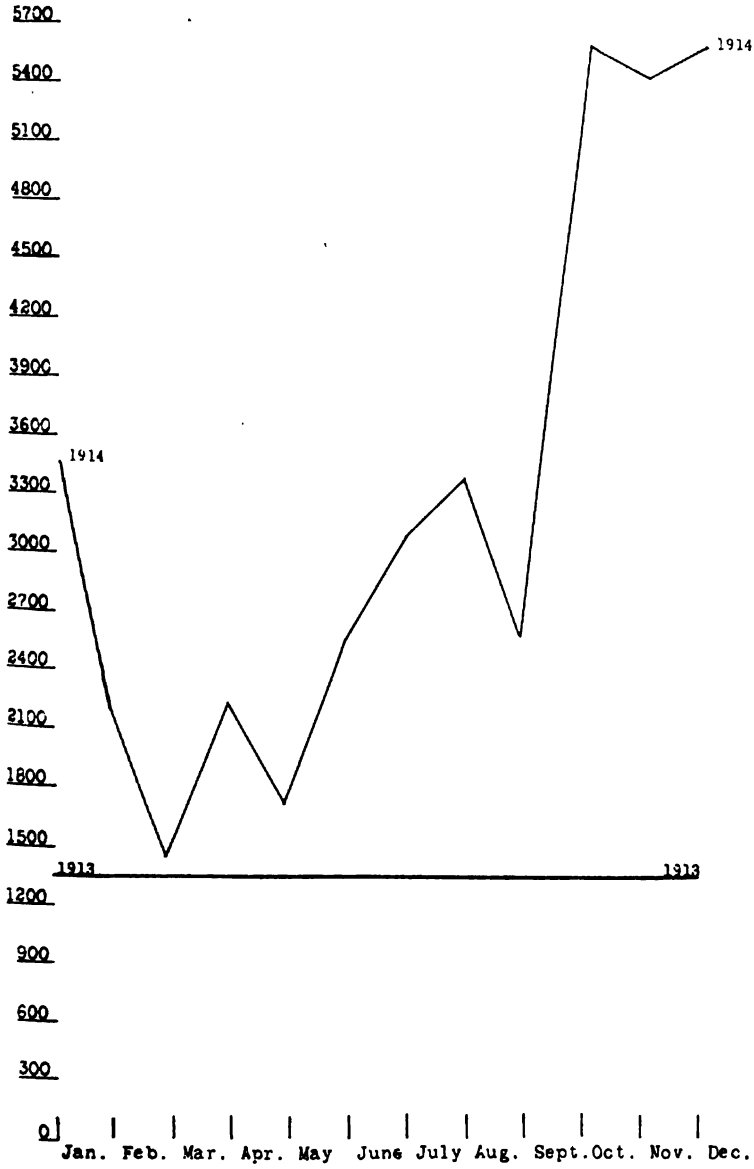
Digitized by Google



NUMBER OF DIAGNOSTIC EXAMINATIONS, 1913 (black) and 1914 (red)

Digitized by Google

Digitized by Google

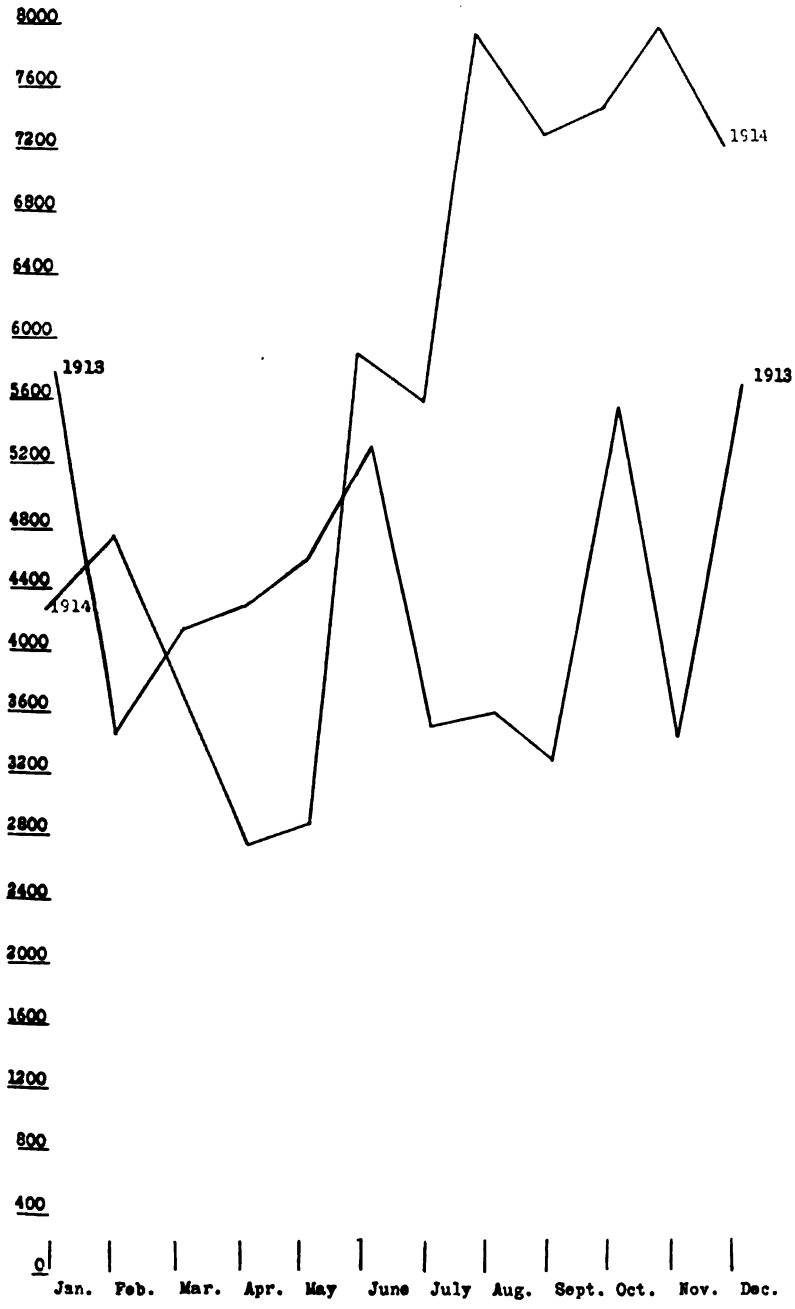


NUMBER OF OUTFITS FOR DIAGNOSTIC SPECIMENS DISTRIBUTED, 1913 (black) and 1914 (red)

Figures for each month of 1913 had to be averaged from the total of the year.

Digitized by Google

Digitized by Google



NUMBER OF PACKAGES OF ANTITOXIN DISTRIBUTED, 1913 (black) and 1914 (red)

Digitized by Google

Digitized by Google

DIVISION OF CHILD HYGIENE

Digitized by Google

Digitized by Google

DIVISION OF CHILD HYGIENE

ALBANY, *January* 18, 1915

HERMANN M. BIGGS, M. D., *Commissioner of Health, Albany, N. Y.*

DEAR SIR.— I have the nonor to transmit herewith the annual report of the Division of Child Hygiene, for the year 1914.

The State of New York is the first State in the Union to recognize the claim of the child by the formation of a special division in the Department of Health. No resources of the State are in such need of conservation as its children, for the future of this country depends upon the physical, intellectual and moral strength of the children of to-day.

The New York City Department of Health established a Division of Child Hygiene in 1908, and the reduction of infant mortality in that city since the organization of the division is definite proof of what can be accomplished by a Division of Child Hygiene. In 1908 the infant death rate was 144 per thousand living births; in 1911 it had been reduced to 120 per thousand living births; in 1913 to 102 per thousand living births, and in 1914 it was 94 per thousand living births.

This decrease has not been accidental but has been brought about by hard work on the part of the director, Dr. S. Josephine Baker, and an able corps of assistants. She has been supported to an unusual degree by the cooperation of private agencies, in increasing the number and efficiency of the infant welfare stations, educating the mothers and correlating the activities of all agencies in infant welfare work.

The question of infant mortality is a large one and cannot be solved without the assistance of our State and national authorities. The United States Government, recognizing its duty to the younger citizens, established a Federal Children's Bureau two years ago. For the first year $25,000 was appropriated for the entire department, and this year the appropriation was increased to $165,000.

Digitized by Google

The need for infant welfare work outside of the city of New York is shown by the fact that until this past year there had been practically no change in the infant mortality rate during the past ten years. New knowledge of the causes affecting infant mortality has developed along many lines, and this knowledge has shown us ways in which a large number of infants' deaths can be prevented.

The State Department of Health, in view of the high mortality among infants, which made up one-sixth of all the deaths from all causes in the State, added a consulting pediatrician to the staff in the spring of 1912. The special Public Health Commission appointed in January, 1913, to investigate and report to the Governor on the public health situation in the State, recommended that a division of child hygiene be added to the State Department of Health. This recommendation was included in the revised Public Health Law and the director was appointed in January, 1914.

Census

There was no information available to show the number of organizations and charitable societies engaged in infant welfare work in the various cities and villages throughout the State. One of the most important functions of this Division is to secure the cooperation of such agencies and to direct their activities along lines most productive of results, and in cities where several similar societies are established to unify and correlate their work so as to prevent unnecessary duplication of effort. The first activity, therefore, of the Division of Child Hygiene was to secure this record, and the following communication was sent to all the health officers:

February 13, 1914

DEAR DOCTOR:

A most important duty of the Health Officer is the reduction of the infant mortality in his community. It should be a matter of grave concern that the infant mortality in this State, outside of New York City, is increasing. In New York City, in 1904, the infant death rate was 162 per one thousand living births, and it has steadily decreased until this year it is less than 102. On the other hand, the rate in the State *outside* of New York City has only fallen 9 points since 1904, or to 126 this last year. This difference

Digitized by Google

is more startling when the congested conditions of living in New York City are considered.

A State-wide campaign to reduce this mortality will be inaugurated, and the results obtained in New York City must be duplicated throughout the State.

The new Health Law established a Division of Child Hygiene which will cooperate with you in your efforts to lower infant mortality in your district. In order that we may do this effectively, will you kindly send me a brief outline of the infant welfare work under your care? It is also desirable to ascertain as soon as possible the names and officers of organizations or societies now definitely engaged in infant welfare work in your vicinity. If there are no agencies directly engaged in infant welfare work, will you be kind enough to give the names of people who may be sufficiently interested to cooperate with you in establishing infant welfare stations?

Will you kindly fill out the enclosed blank and return as promptly as possible to this Department? Any suggestions that you may have regarding this line of work, and the conditions existing in your locality, will be welcome.

Very truly yours,

HERMANN M. BIGGS,
Commissioner of Health

By HENRY L. K. SHAW, *Director, Division of Child Hygiene*

Replies were received from 399 health officers, which showed that there were but twelve localities in the State where infant welfare stations had been established, and in only three of these localities was the work continued throughout the entire year.

The absolute lack of any infant welfare work, outside of a few of the larger cities, showed the great need for systematic and aggressive work in all portions of the State.

Infant welfare campaign and exhibit

Cities

A campaign to reduce infant mortality is essentially one of education and special efforts should be concentrated on the mother, who is the natural custodian of her child. It was felt that this could best be done by popular exhibit, lectures, talks and demonstrations. The objects of the campaign, as planned, were to educate the mother in the care and feeding of her child, to arouse the

Digitized by Google

community to the necessity for child welfare work, to point out the fact that a high infant mortality was unnecessary and should be considered a disgrace, to establish infant welfare centers with the employment of nurses, and to improve the general milk supply.

Three exhibits were prepared by Mr. Charles J. Storey, supervisor of exhibits, consisting of 20 large panels, with appropriate pictures and striking health epigrams. These are shown by photographs which accompany this report. A brief description of the exhibit is given in Appendix I.

Through the courtesy of Dr. G. W. Goler, health officer of Rochester, and the Russell Sage Foundation, we were fortunate in securing the loan of their child welfare exhibits. These were used to supplement those of the State Department in the cities where the exhibit was held in the armory or extra large hall.

The exhibits started about the 1st of April and continued until the 1st of July, when 45 cities and large villages had been visited and over 150 public meetings held. Over 79,000 persons attended these meetings. The exhibits were shown in three adjacent communities each week, and by this concentration in a comparatively small territory, the advance and publicity work was done at a minimum of expense and time and the campaign in one city was assisted by the work in the two other cities.

Each exhibit was in charge of an exhibit manager, a trained infant welfare nurse and a mechanic, and the advance work was most ably performed by Dr. Duryee, sanitary supervisor. Dr. Lee R. Thomas, who had been identified with infant welfare work in the New York Milk Committee, was placed in charge of the field work and devoted his entire time to the three exhibits. Three special lecturers from the Department, Mrs. Elizabeth Finigan, Dr. Alexander Wolff and Dr. White, accompanied the exhibits, so that at all the public meetings the State Department was represented by one or two speakers. The trained nurse gave hourly demonstrations in the preparation of foods, the care of milk and clothing the baby, and she was constantly giving personal instruction to the many mothers who visited the exhibit.

For ten days before the coming of the exhibit the newspapers were supplied with material for publication, and during the exhibit and meetings a large amount of space was devoted by the

Digitized by Google

local press to this feature of the work undertaken by the State Department. Newspaper copy was sent from the State Department to all the newspapers, not only in the cities where the exhibits were shown but in the surrounding territory, and, when requested, special cuts were furnished.

A description of the meetings and of the work in each of the cities visited is given in Appendix II, together with a report of the infant welfore activities and results in each city where an infant welfare station is maintained.

The total cost of this Campaign, including the salaries of all connected with the work, namely, Supervisor of Exhibits, advance organizers, lecturers, trained nurses, and mechanics, for the four months from April 1 to August 1, was $10,500. This included all the expenses connected with the three exhibits at the 45 cities and the cost of transportation and express.

County fairs

An effort was made to reach the truly rural population by placing one of the exhibits at various county fairs. Letters were sent to the secretaries of 99 fairs, asking for space if they felt that such an exhibit would appeal to their patrons. Requests were made for the exhibit to visit 65 fairs, but as most of the dates occurred during the months of August and September, it was found impossible to place the exhibit at all of the fairs from which requests had been received. Three rural sanitation exhibits were prepared by Mr. Storey and the two additional child welfare exhibits which had been loaned by Dr. Goler and the Russell Sage Foundation, were arranged so that during August and September eight exhibits were shown at 55 county fairs, as well as at the New York State Fair at Syracuse and the Rochester Industrial Exposition.

The Child Welfare Exhibits were in charge of a trained nurse and the Rural Sanitation Exhibits were demonstrated by one of the exhibit managers of the infant welfare exhibits. From figures furnished by the State Department of Agriculture, it was estimated that 575,000 people visited the 55 county fairs at which our exhibits were shown, and that the attendance at the State Fair and the Industrial Exposition was estimated at 750,000, making a total attendance of 1,350,000 people.

Digitized by Google

A description of the Exhibit at each of these fairs is given in Appendix III.

The total expense in connection with these eight exhibits at the 55 county fairs from August 1 to October 1, including all the salaries and transportation charges, was $4,500.

Rural communities

A number of requests were received in September and October for exhibits to be shown in the smaller villages and it was felt that great good could be accomplished by sending an exhibit in charge of an experienced infant welfare nurse to these smaller towns. During the months of November and December, the Child Welfare Exhibit has been shown at Huntington, L. I., Sodus, Mt. Morris, Atlanta, Fort Plain, Le Roy, Perry, Warsaw and Lake Placid.

The local newspapers are provided with articles calling attention to the Exhibit and giving a brief description of its objects, and the Health Officer secures an accessible hall or store and enlists the cooperation of local societies and the school authorities. A baby health conference has been held in connection with several of these exhibits under the direction of Dr. De Vilbiss. These conferences form not only an attractive feature of the Exhibit but have a decided educational value.

The results of having an Exhibit in these smaller towns fully justifies the expense, for a great deal of local interest is aroused and almost the entire population visits the Exhibit and attends the lectures. The trained nurse addresses the school children at the public and parochial schools, holds special meetings for mothers and prospective mothers, and also makes a number of home visits in connection with her work. In visiting the homes, the nurse comes into closer touch with the mothers who are more at ease and frequently discovers mistakes being made in the care and feeding of the babies, which the mothers never would think to ask about because they take it for granted that they are doing things in the right way.

The following extract from a letter from a Health Officer is indicative of the reception the Exhibit receives in the smaller towns:

Digitized by Google

Infant Welfare Exhibit of the New York State Department of Health as shown at the Rensselaer County Fair

Digitized by Google

Digitized by Google

"I believe the public took to the Exhibit very kindly. If not, why did some of the business men see fit to write letters of congratulation, why did others extend the same verbally? Why did one man say, 'If my wife and I could have had the benefit of that Exhibit when our boys were babies, it would have saved us hundreds of dollars'? If not interested, why did the public turn out repeatedly in such large numbers?"

Literature

A series of leaflets was prepared for distribution in connection with the exhibits. The titles of these leaflets are:

The New Born Baby, Preparation for Motherhood, Artificial or Bottle Feeding, The Summer Care of Babies, Care of Milk in the Home, From the Bottle to Table Food, Avoid Infection.

These leaflets are also published in Italian and Polish, and 75,000 copies were distributed during the summer.

A special bulletin was written on infant welfare campaigns and infant welfare stations with suggestions as to their formation, organization and management. This bulletin was intended to assist local committees and Health Officers in establishing infant welfare stations in the different cities of the State.

A 28-page illustrated pamphlet entitled "Your Baby — How to Keep It Well" was issued in August. This is a revision and enlargement of a previous booklet issued by the Department entitled "How to Save the Babies." A copy of this pamphlet is sent to each mother on receipt of the birth certificate of her baby, with the following letter:

NEW YORK STATE DEPARTMENT OF HEALTH,
ALBANY

DEAR MADAM:

Through the report made by your physician to the local health authorities, I learn that you have recently given birth to a child. I know how important this is to you and I want you to feel that it is also an important event to the great State of New York. I wish you to feel that the State Department of Health was created and is supported by the taxpayers to give your little baby every possible chance to grow up to be a strong, healthy citizen.

The State's interest in the welfare of your child, and the welfare of all its children, is expressed in its infant welfare

Digitized by Google

campaign. Exhibits dealing with Infant Welfare were shown in 46 different cities and at 50 county fairs during the past summer and the result of the interest aroused has been a reduction in the infant death rate corresponding to the saving of 700 lives.

In order to help you and the other mothers of the State to protect your babies from the dangers that threaten infancy, the State Department of Health has prepared this booklet "Your Baby — How to Keep It Well," which we believe will be of material assistance to you in guarding your baby from disease. Anyone who cares to do so may obtain an extra copy of this booklet by writing to the State Department of Health at Albany and enclosing a two-cent stamp for postage.

The one thing to remember, however, above all others, is that your physician is the best protector of your baby's health. Consult him every time the baby shows the least sign of not being well. A slight stomach or bowel trouble may be the beginning of a serious sickness. An "ordinary cold" or sore throat may be the beginning of diphtheria, measles or scarlet fever. If these small beginnings are taken in time serious illness may often be prevented.

Your physician will be of more help to you in the early stages of sickness than in the later days when serious results have developed.

The law requires that the birth of every infant shall be reported to the health authorities, and therefore the arrival of your child has been recorded here in Albany. This may become an extremely important record to your child when it grows up. May I suggest that you show this letter to the women of your acquaintance, especially expectant mothers? It would be well for mothers who have not received this letter to assure themselves by asking their physicians if the births of their children have been reported. I suggest also that you insist that births of future children in your family be reported by your physician to the proper authorities.

We will gladly send you further information and other circulars (see list on reverse side of this letter) if you will address Division of Child Hygiene, State Department of Health, Albany, New York, and enclose stamp for postage.

In closing, I wish you and your little one healthy, happy and prosperous careers.

Very truly yours,

HERMANN M. BIGGS,
Commissioner of Health

Digitized by Google

From August 1 40,000 letters and pamphlets have been sent directly from the Department to the mothers throughout the State.

The News Bureau, conducted by the Division of Publicity and Education, sent out timely articles on the general care and treatment of babies each week during the summer to over 400 newspapers in the State.

The Director has contributed articles pertaining to Child Welfare for the Health News and for various medical journals.

Lectures

In connection with the Child Welfare Exhibit in the cities, lectures were given by the following members of the Department:

Commissioner Biggs, Deputy Commissioner Williams, Dr. Meader, Dr. Duryee, Dr. Sears, Dr. Mahoney, Dr. Clark, Dr. Patchin, Dr. Crum, Dr. Hubbard, Dr. Thomas, Dr. Wolff, Dr. White, Mrs. E. M. Finigan, Mr. John Smalley; and also by Dr. S. Josephine Baker and Dr. Cronin of the New York City Department of Health, and Dr. Carl G. Leo Wolff of Buffalo, N. Y.

Dr. Lydia A. De Vilbiss was appointed special lecturer in October, and she has appeared before Women's Clubs, Societies, etc., and has conducted Baby Health Conferences in connection with the Exhibit in smaller towns.

The Director has given 54 addresses during the past year at the following places:

Albany, Amsterdam, Atlantic City, Batavia, Bennington, Boston, Boston Floating Hospital, Catskill, Cohoes, Corning, Elmira, Fonda, Fort Plain, Geneva, Herkimer, Kingston, Le Roy, Little Falls, Mt. Vernon, Newark, Newburgh, New York City, Niagara Falls, Oneonta, Philadelphia, Poughkeepsie, Port Henry, Rochester, Round Lake, Saratoga Springs, Schenectady, Syracuse, Troy, Utica.

Motion pictures

Two films on the "Care of Babies" and the "Improvement of the Milk Supply" were leased from the General Film Company for use in connection with the exhibit. Great interest is shown wherever these films are exhibited and the educational value of moving pictures is now very thoroughly established.

Digitized by Google

A special motion picture film illustrating the activities of this Division was prepared in cooperation with the Division of Publicity and Education. This was intended primarily for the Panama Pacific Exposition, and was paid for out of the Panama Exposition Fund. Duplicates are to be secured for use in the State.

Public health nurses

Three trained nurses, experienced in infant welfare work, were appointed in April, each to take charge of an exhibit. These nurses were Miss Rennert, Mrs. Chichester and Miss Schofield. In August Mrs. Carter was appointed and took charge of one of the exhibits at the county fairs.

The Civil Service Commission in September submitted a list of nurses who had passed the examination, and the following additional nurses were appointed: Mrs. Whitmore, Miss Barry and Miss Noon. Miss Schofield resigned the first of October.

The first of November Mrs. Carter, Mrs. Chichester, Mrs. Whitmore and Miss Noon were transferred to other Divisions but Miss Rennert and Miss Barry have continued to devote all their time to the work of this Division. Miss Rennert visits the localities where infant welfare stations have been established and reports on the local conditions. She also talks to the school children in both the public and parochial schools, with the object of establishing Little Mothers' Leagues. Miss Barry is with the exhibit at the smaller towns.

Prenatal work

The mortality in the first month of life from the so-called congenital diseases, forms about forty per cent. of the mortality in the first year. This figure has shown no material reduction in spite of the fact that the mortality in the first year has been greatly reduced. A study of the problem shows that it can only be affected by the education of the mother before her baby is born. This work with the expectant mother, wherever in operation, has been rewarded by a striking decrease in the mortality of the babies whose mothers had received this special care and instruction.

Digitized by Google

This Division attempted to reach the expectant mothers through the exhibit. A bed, prepared for a maternity patient, was included in the infant welfare station equipment, and the steps in its preparation were demonstrated by the nurse in charge. The nurse personally presented the leaflet, "Before the Baby Comes," and advised the expectant mothers to take special care of their diet and clothing and to consult a physician early.

Little mothers' leagues

A most effective method of saving infants' lives is by means of the Little Mothers' Leagues which were organized by Dr. S. Josephine Baker in New York City in 1908. It is often very difficult to educate the mother of the baby, but the baby's elder sister is usually in school and can be reached directly through the school. She often has the responsibility for the care of her little brother or sister during the hot months.

Little Mothers' Leagues are organizations for the girls in the public and parochial schools. All girls over twelve years of age are admitted, but younger girls are included if the parents are willing. The purpose of these leagues is to educate the children in the care and feeding of the babies and the watchword is: "Keep the Babies Well."

A synopsis of lectures and demonstrations is furnished to the school nurse or teacher and bi-monthly meetings are held. In the public schools of the State, outside of the city of New York, there are 443,000 girls, and those in the parochial schools number 49,500. Practically one-half of all these girls would be eligible for membership in the Little Mothers' Leagues.

An association of Little Mothers' Leagues, under the direction of the State Department of Education and the State Department of Health, is now beng planned and an Advisory Council of prominent and influential women is being organized. It is confidently expected that during this year there will be over 100,000 school girls enrolled in these leagues. The pledge cards and records of attendance will be sent to the Division of Child Hygiene, and a certificate of membership issued.

Digitized by Google

Milk

The milk question and the health of babies are closely interlocked and it is expected that when the new regulations of the Public Health Council are put in operation throughout the State, there will be a decided decrease in the number of deaths of infants from diarrhea and intestinal disorders.

The Division of Child Hygiene has taken an active interest in the improvement of the local milk supplies and in educating the public to the importance of pasteurization of milk. The Director has given a number of addresses before professional and lay audiences on this subject.

Diarrheal diseases

Gastrointestinal disorders form a large group of diseases for the first year. The high mortality from these diseases occurs during the months of June, July and August. The reasons for the appalling toll taken by summer diarrhea are two-fold; heat and improper feeding. This group of diseases is very largely preventable, when the measures for its prevention are understood and put into operation. The reduction in the number of diarrheal deaths from 3,308 in 1913, to 2,845 in 1914, shows that the education campaign which emphasized the importance of breast feeding and the pasteurization of milk has resulted in the saving of many infants' lives.

Infant welfare stations

The aim of the campaign was the formation of infant welfare committees and the establishment of infant welfare stations. It has been thoroughly demonstrated that such stations, wherever in operation, both in this country and abroad have been the means of materially lowering the infant mortality. At these centres the mother receives instruction in the care and feeding of her child both in sickness and in health. The necessity for breast feeding is strongly emphasized and where this is impossible the nurse on her visits to the home teaches the mother how to prepare the feedings. The babies are brought to the clinic at least once a week for weighing and examination by competent physicians. The doctor outlines the diet when breast milk is not

Digitized by Google

INFANT WELFARE STATION AT PEEKSKILL

Digitized by Google

Digitized by Google

Interior Infant Welfare Station at Peekskill

Digitized by Google

Digitized by Google

available and keeps general oversight of the baby's condition. Talks and demonstrations to mothers are given by physicians and nurses at stated intervals, and the nurses visiting the homes come in contact with expectant mothers and give them instruction in the proper preparation for motherhood.

There is scarcely a city of any size in Europe where there is not an infant welfare station supported in most instances by the municipality. There are 555 such stations in 355 localities in Germany; England has over 200 and France over 300.

In 1911, in the entire State of New York outside of the city of New York, there were only 11 such stations in three different localities. In 1913, there were 32 such infant welfare stations in 12 different localities, while in 1914 this number was increased to 67 stations in 32 different localities.

It has been impossible to obtain statistics of the work accomplished in all these stations, but from a number of those reporting we have obtained the following information:

Total number of babies cared for during the year..	11,680
Total number of sick babies treated.....	2,894
Total number of well babies treated.....	5,745
Total number of breast-fed babies	3,149
Total number of bottle-fed babies	4,347
Total number of home visits by nurse to well babies.	34,829
Total number of home visits by nurse to sick babies.	28,815
Total number of mothers instructed	22,730
Total number of quarts of milk dispensed.....	271,205
* Total number of babies died (while under registration at the stations).....	167

The value of the infant welfare stations in preventing disease and sickness is shown by the fact that nearly 3,000 more well babies were enrolled than sick babies, and that there were nearly as many breast-fed babies as those fed on the bottle. The educational function of these stations is brought out forcibly from these reports as instruction was given to over 22,000 mothers. Classes for mothers were held at many of the stations and women

* This figure is perhaps misleading as mothers may take their babies away from the station in a dying condition, but as the nurses follow up most of the cases this figure is approximately accurate and proves convincingly and unmistakably the life saving possibilities of these stations.

Digitized by Google

were admitted who did not have babies enrolled, and demonstrations were frequently made in the homes in presence of one or more neighbors.

Correspondence

A considerable number of mothers write to the Department for advice concerning the care and feeding of their babies, and many letters are received expressing appreciation of this feature of the work of the Department. The mayors of many of the cities where the exhibit was shown, as well as the secretaries of the fairs, have written to the Department expressing their favorable opinion of the work. Quotations from some of these letters are given in Appendix IV.

The number of letters written by the director from the first of May to the first of January numbered 2,557.

Infant mortality rate

A comparison of the vital statistics relating to the deaths of infants under one year of age for the past ten years shows that the infant mortality for 1914 is the lowest ever recorded. The rate for 1913 was 120 per thousand living births, while for 1914 the rate was 105 per thousand living births. This is a reduction of 15 per thousand living births, which is an unprecedented drop. There were 99,510 reported births, so that, figuring on the saving of 15 per thousand living births at the same rate as last year, there would be a saving of about 1,500 infants' lives.

These statistics apply to the number of deaths and there is no way to measure the amount of sickness and suffering which has been prevented by the educational campaign. The factors which contribute directly or indirectly to infant mortality also affect the health and vigor of the children as they grow up. The elimination of these causes, therefore, not only reduces the number of infants' deaths but ensures a stronger and healthier childhood in those who survive the first year of life.

In view of the fact that there has been a slight increase in the total number of deaths, it is fair to assume that the marked decrease in the total number of infants' deaths has been due to the activities of the Division of Child Hygiene, such as the education

Digitized by Google

of the mothers through the exhibits, lectures, pamphlets, articles in the press and the establishment of infant welfare stations, for all contributed largely to this result.

Results of the work of the first year

Table 1, pages 231, shows that the mortality in the cities of the first-class,— New York, Buffalo and Rochester — is much lower than in any of the other group of cities, and the rate is 1 per thousand higher than in the strictly rural districts. The Infant Welfare Campaign reached principally the cities of the second and third class. Here we see the effect of this work, as the infant mortality in the seven second-class cities fell from 136 to 116, and in the fifteen cities comprising Group A of the cities of the third-class, the rate was reduced from 120 to 103. There was a slight reduction in the rate in the rural districts and there was an increase in the rate of the cities comprising Group B of the third class.

Table 3 shows the infant mortality in the 32 municipalities where infant welfare stations have been established. The mortality rate fell below 100 per thousand in five of these cities in 1913, and in 13 of the cities in 1914. In 24 of the 32 cities there was a reduction in the infant mortality of 1914 over that of 1913.

Table 4 gives the infant mortality in the 29 cities where no infant welfare work has been established, although the exhibit was held in 15 of these cities. A comparison of the rates in cities having infant welfare stations is of considerable interest.

In 1913 the infant mortality rate fell below 100 per thousand in 11 of these cities, while in 1914 there were only ten below the 100 mark. In every one of these cities the Department had conducted an Infant Welfare Campaign. In 19 of the cities there was a reduction in the 1914 rate, while in 10 cities the mortality rate was higher in 1914 than in 1913. Of the 15 cities visited by the exhibit, there was a reduction in the 1914 mortality rate in 11 cities and an increase over the rate of 1913 in 4 cities.

The effect of the Child Welfare Campaign in reducing the infant mortality of 1914, can best be determined by comparing

Digitized by Google

the statistics of the last six months of the year with those of the corresponding months of 1913 as the campaign was not started until April 1. These figures are shown in Table 5.

The infant mortality rate for the last six months of 1913, July 1, to December 31, was 132 per thousand living births, and for the corresponding period in 1914 this had been reduced to 106. It should be borne in mind that this period includes the hot summer months when the infant mortality has always been at the highest point.

The statistics and tables were prepared by Dr. Cressy L. Wilbur, Director, Division of Vital Statistics, whose help and suggestions have been of the utmost assistance.

The results of the 1914 Infant Welfare Campaign, conducted by the State Department of Health, through the Division of Child Hygiene, can be summarized briefly, as follows:

Forty-five cities were visited and 35 new stations established in 22 new localities. In 18 of these cities the infant mortality rate was below 100 per thousand living births, and in 31 of the 45 cities the rate fell below that of 1913, while in the 12 cities not reached by the exhibit in only four did the rate fall below that of 1913.

The infant mortality rate outside of New York City fell from 125 per thousand living births in 1913 to 111 per thousand living births in 1914. Including New York City, the infant mortality rate for the State is 101, which is lower than any State in the Union.

Digitized by Google

TABLE 1

INFANT MORTALITY IN THE CITIES OF NEW YORK STATE ACCORDING TO POPULATION 1912, 1913, 1914

CITIES	Deaths under 1 year	Births	Deaths under 1 year to 1,000 births
1912			
First class (over 175,000)	16,253	152,696	106
Second class (50,000 to 175,000)	1,821	13,738	133
Third class (Group A) (20,000 to 50,000)	1,162	9,802	119
Third class (Group B) (10,000 to 20,000)	1,186	8,265	143
Third class (Group C) (under 10,000)	52	465	112
Rest of State (rural districts)	4,207	42,154	100
1913			
First class (over 175,000)	16,000	152,973	105
Second class (50,000 to 175,000)	1,963	14,434	136
Third class (Group A) (20,000 to 50,000)	1,225	10,218	120
Third class (Group B) (10,000 to 20,000)	1,239	9,011	137
Third class (Group C) (under 10,000)	81	807	100
Rest of State (rural districts)	4,536	41,270	110
1914			
First class (over 175,000)	15,379	159,768	96
Second class (50,000 to 175,000)	1,774	15,240	116
Third class (Group A) (20,000 to 50,000)	1,145	11,084	103
Third class (Group B) (10,000 to 20,000)	1,197	9,404	127
Third class (Group C) (under 10,000)	108	930	116
Rest of State (rural districts)	4,128	43,612	95

TABLE 2

DEATHS, BIRTHS AND INFANT MORTALITY OUTSIDE NEW YORK CITY BY MONTHS, 1913 AND 1914

	Total deaths	Under 1 year	Total births	Death rate	Diarrhea deaths	Infant mortality
Jan., 1913	6,572	867	7,807	17.2	88	111
1914	6,506	854	8,193	16.8	112	104
Feb., 1913	6,238	959	7,380	18.0	84	130
1914	6,120	861	7,715	17.4	105	112
Mar., 1913	6,699	997	8,380	17.5	99	119
1914	7,140	979	8,583	18.5	111	114
April, 1913	5,881	856	7,558	15.9	127	113
1914	6,451	875	8,063	17.2	100	109
May, 1913	5,843	716	7,814	15.3	122	92
1914	6,129	823	8,439	15.8	107	98
June, 1913	5,467	676	7,640	14.8	132	88
1914	5,194	690	8,327	13.4	146	83
July, 1913	5,841	1,105	8,058	15.3	558	137
1914	5,338	906	8,735	13.8	370	104
Aug., 1913	6,215	1,428	8,038	16.2	940	178
1914	5,609	1,103	8,946	14.5	618	123
Sept., 1913	5,921	1,216	8,007	16.0	654	152
1914	5,588	1,112	8,511	14.9	619	130
Oct., 1913	5,651	935	7,756	14.8	342	121
1914	5,461	848	8,155	14.1	341	104
Nov., 1913	5,263	734	7,239	14.2	154	101
1914	5,393	687	7,868	14.4	138	87
Dec., 1913	5,780	773	7,913	15.1	118	98
1914	5,744	698	7,975	14.8	93	88
Total, 1913	71,371	11,262	93,590	15.8	3,418	120
1914	70,673	10,436	99,510	15.5	2,860	105

Digitized by Google

TABLE 3

INFANT MORTALITY IN CITIES WHERE INFANT WELFARE STATIONS HAVE BEEN ESTABLISHED

	Total births, 1914	Deaths under 1 year		Deaths of infants under 1 year to 1,000 living births	
		1913	1914	1913	1914
*Albany**	2,115	270	267	147	126
Amsterdam	1,067	122	119	141	112
Batavia†	339	38	46	126	136
Buffalo*	12,639	1,638	1,524	138	121
*Cohoes**	554	85	96	131	173
Corning	280	32	34	120	121
Elmira	801	74	85	101	106
Fulton	332	36	45	143	136
Glens Falls	322	23	37	69	115
Gloversville	455	50	43	130	95
Hastings*	118	11	6	93	39
Herkimer	229	27	19	118	88
Hudson	280	31	32	116	114
Ithaca	312	26	20	94	64
Jamestown	795	92	58	117	73
*Little Falls**	416	60	69	161	166
Mt. Vernon	906	85	69	100	76
Newburgh	606	69	57	136	94
Niagara Falls	1,430	171	169	129	118
No. Tonawanda	418	59	54	154	129
Olean†	461	46	34	107	74
Peekskill	306	39	43	122	141
*Poughkeepsie**	801	72	71	99	89
Rochester.*	6,601	580	560	97	85
*Schenectady**	2,157	228	229	111	106
Seneca Falls	160	21	10	131	63
*Syracuse**	3,358	447	419	145	125
Troy..*	1,365	165	184	127	135
*Utica**	2,434	340	288	145	118
Wappingers Falls	58	8	20	138	233
White Plains	521	66	41	128	79
*Yonkers**	2,517	309	222	122	88

* Stations established prior to 1913
† Stations established after September, 1914
** Places in italics visited by exhibit

Digitized by Google

TABLE 4

INFANT MORTALITY IN CITIES WHERE NO INFANT WELFARE STATIONS HAVE BEEN ESTABLISHED

	Total births, 1914	Deaths under 1 year		Deaths of infants under 1 year to 1,000 living births	
		1913	1914	1913	1914
*Auburn**	750	92	85	139	113
Beacon	243	30	24	123	99
Binghamton	1,294	204	165	168	128
Canandaigua	165	14	14	90	85
Cortland	230	20	32	85	139
Dunkirk	548	68	54	116	99
Geneva	333	33	40	125	120
Hornell	267	29	18	116	67
Johnstown	227	28	15	149	66
Kingston	446	49	41	121	92
Lackawanna	685	263	240	399	350
Lockport	348	57	36	162	103
Middletown	255	24	28	85	110
New Rochelle	736	55	57	74	77
Ogdensburg	405	51	55	139	136
Oneida	239	15	27	88	113
Oneonta	227	14	22	74	97
Ossining	175	24	16	102	91
Oswego	561	74	78	149	139
Plattsburg	244	35	30	139	123
Port Chester	559	39	36	68	64
Port Jervis	174	16	19	113	109
Rensselaer	152	13	28	77	184
Rome	628	54	58	94	92
Salamanca	186	14	24	81	129
Saratoga Springs	251	16	28	75	112
Tonawanda	166	22	24	131	145
Watertown	548	81	59	161	108
Watervliet	268	39	40	159	149

* Cities in italics visited by exhibit

TABLE 5

INFANT MORTALITY RATES OUTSIDE OF NEW YORK CITY

(For the last six months of year — July 1 to December 31)

	1913	1914
Births	47,011	50,190
Deaths under one year	6,191	5,354
Rate	132	107

NOTE — This includes the summer months of July, August and September, when the infant mortality is highest.

RECOMMENDATIONS

1 The campaign which was inaugurated last April should be continued this spring, as there are many localities where such

Digitized by Google

work is necessary and would be welcomed. There are no infant welfare stations in the following places:

Auburn, Beacon, Binghamton, Canandaigua, Cortland, Dunkirk, Geneva, Hornell, Johnstown, Kingston, Lackawanna, Lockport, Middletown, New Rochelle, Oneida, Oneonta, Ossining, Oswego, Plattsburg, Port Chester, Port Jervis, Rensselaer, Rome, Salamanca, Saratoga Springs, Tonawanda, Watertown, Watervliet.

The Department has been requested by the health officers in several of these cities to bring the exhibit and to start a campaign of education in their respective localities.

2 The campaign of education must be extended in the rural communities. It has been shown that the exhibits and lectures make a strong appeal to these people, and more of the smaller towns and villages should be reached this coming year. The extension of Baby Health Conferences should be encouraged.

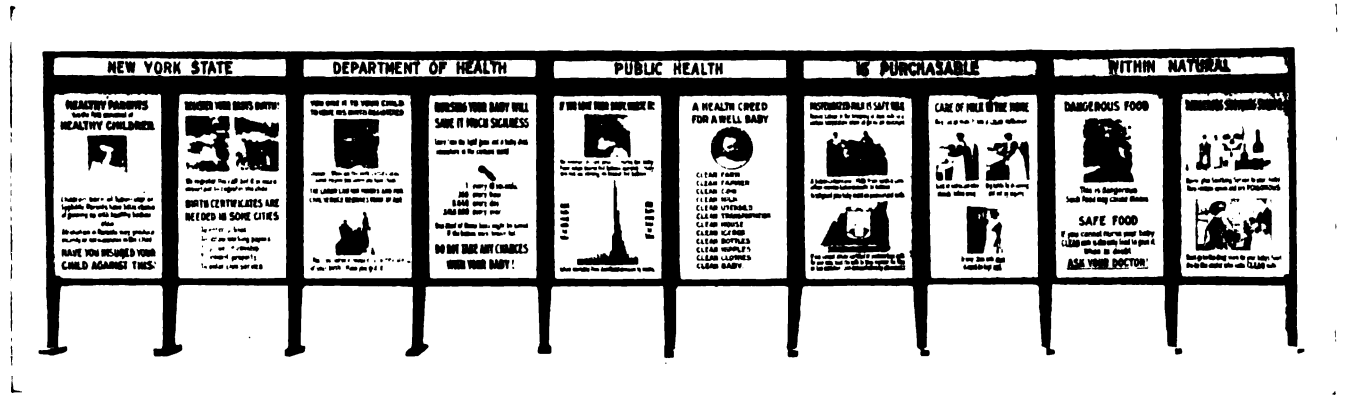
3 The formation of Little Mothers' Leagues should be extended throughout the schools of the State in both the public and parochial schools. This should be done in cooperation with the Department of Education.

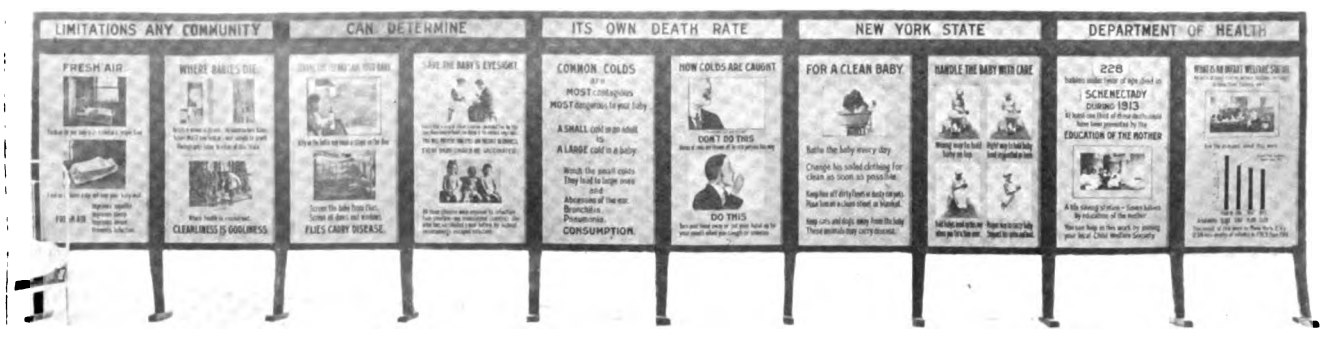
4 Investigation should be made of the infant mortality in the infant institutions, hospitals and orphan asylums, as the reports from these institutions show that the mortality ranges from 30 to 60 per cent. This is excessive and efforts should be made to bring about a decided reduction. The institutions are at present required by law to make a monthly report to the State Board of Charities and the local health officer, and provision should be made to have reports sent directly to the State Department of Health to be filed with the Division of Child Hygiene.

5 The number of diarrheal diseases has been decidedly reduced by means of education of the mother and improvement of the milk supply. The high mortality in respiratory diseases of the first two years of life has shown little or no diminution and a vigorously conducted campaign should be inaugurated to reduce the number of deaths from these causes. To this end the mothers should be instructed as to the proper use of fresh air, suitable clothing and attention to slight colds and bronchial affections.

6 There are a large number of feeble-minded and backward children in the State outside of institutions, and an inquiry

Digitized by Google





Child Welfare Exhibit

Digitized by Google

Digitized by Google

should be made into the extent of feeble-mindedness and the methods used in caring for and educating these children.

7 This Division should make a study of the child labor question as existing in New York State. The physical examination required by law does not give any definite information and the children do not receive a thorough physical examination, hence there are no physiological standards to determine whether a child should be allowed to work in the factories or stores, and there are no data to show the effect on the health of the child of the various occupations and confinement.

8 The medical inspection of school children in the rural districts has not been very successful, and this Division could very properly cooperate with the Department of Education in raising the standard of these examinations, to the end of improving the physical condition of the children in the country schools.

9 The Division should have authority to make regular inspections and recommendations of the various infant welfare stations. Each station should be obliged to file regular monthly reports with this Division.

10 Efforts should be made to reduce the number of stillbirths and the high rate of infant mortality in the first month of life by prenatal care and instruction. Nursing organizations and visiting nurses should include this activity as part of their general routine work. There is great need for more thorough and systematic work along these lines.

11 An inquiry should be made regarding the work of the various day nurseries in the State similar to that carried on by the Department of Health in New York City. There are twenty-four of these in the State outside of the city of New York.

Respectfully submitted,

HENRY L. K. SHAW,
Director.

APPENDIX I

DESCRIPTION OF THE EXHIBIT

The exhibit consisted of a model infant welfare station and twenty panels which gave a condensed exhibit on infant and child welfare by means of colored photographs, striking cartoons and epigrammatic texts. Care was taken in preparing the panels

Digitized by Google

not to show anything of a morbid or unpleasant nature, the idea being to interest the people in the subjects rather than to instill fear. The exhibit, therefore, was made to appear as bright and cheerful as possible.

The panels were 35 x 60 inches, painted white, with gray frames and were locked together in a row by a simple device which prevented the use of loose pin hinges. They were provided with portable standards or legs which made it possible to install the exhibit within an hour or two.

The infant welfare station occupied a space about 15 x 22 feet. Portable walls were carried with the exhibit and a full equipment for demonstrating the work of the infant welfare station was included. The nurse in charge weighed babies, gave advice to their mothers and held informal talks on the bathing and care of the baby whenever a group was collected. A life-sized doll, which could be bathed and dressed, was found invaluable in making these demonstrations.

In addition to the regular equipment, a bed was usually hired with which the nurse demonstrated the preparation of a maternity bed. Chairs were secured for the comfort of visitors and in a number of instances milk, which had been donated by the local people, was dispensed to the mothers when they came in to rest. An electric stove was used to prepare barley water and to show mothers how to make home modifications of milk. A model of a home-made ice-box, which could be made at a very slight cost, attracted a great deal of attention.

PANELS

1 The Necessity of Healthy Parents
2 Birth Registration — Importance of Birth Certificates
3 Birth Registration — Proof of Age Required by Civil Service and Some Employers
4 Infant Mortality — Electric Flash Light Going Out Every Time a Baby Dies in the Civilized World
5 Necessity of Breast Feeding
6 Health Creed for a Well Baby
7 Pasteurized Milk — Method of Making Clean Milk, Safe Milk
8 Care of Milk in the Home

Digitized by Google

9 Dangerous Foods
10 Dangerous Soothing Syrups
11 Fresh Air for the Baby
12 Where Babies Die (Housing Conditions)
13 The Fly Pest
14 Vaccination and Prevention of Blindness in Babies
15 Common Colds and To What They May Lead
16 How Colds Are "Caught"
17 How to Handle the Baby
18 Bathing the Baby
19 Education of the Mother Will Reduce the Infant Death Rate in Your City
20 Infant Welfare Stations — Their Value

MANAGEMENT OF EXHIBIT

Each exhibit was in charge of an exhibit manager, trained nurse and a mechanic. The exhibit manager went immediately, at the expiration of the exhibit, to the next city where it was to be shown, where he attended to the publicity work, and assisted the local committee in its arrangements. He visited the hall which had been selected and saw to the decorations. The nurse assisted in the publicity work by visiting women's clubs, philanthropic societies and schools, and the mechanic installed the exhibit, arranged for the storing of the boxes and attended to other details, such as packing the exhibit for shipment to the next place.

ADVANCE WORK

It was planned to have the exhibits shown in three different cities each week, and on account of the limited time intervening between exhibit dates it was necessary to plan the route with reference to shipping facilities and accessibility of the cities and villages visited. This was comparatively easy when the cities were on the main railroad lines and the shipments could be made one day with the certainty of receiving the box the next, but where the city was on a different railroad and a transfer had to be made there was often very little time in which to install the exhibit, but during the entire four months of the campaign not an hour's delay was experienced in opening the exhibit on the date scheduled.

Digitized by Google

An advance organizer visited the cities two or three weeks before the exhibit opened and endeavored to influence prominent people in its interests, especially the city officials. Previous to his arrival the Albany office had had considerable correspondence with the health officer, mayor or village president, and the local societies in regard to the campaign. The advance organizer called on these people and also prepared preliminary programs for the series of public lectures which were to be held during the exhibit. He also visited the newspaper offices and furnished them with material with which to start the publicity campaign. The programs were telegraphed to the Albany office every night and in that way were quickly approved and the appointments for the Department speakers assigned. Letters were written to each of the suggested speakers asking them to address the meeting as scheduled.

A publicity man visited the cities about ten days before the exhibit arrived and attended to the placing of window placards and supplied the newspapers with more copy and cuts. In a number of instances he was able to secure space in trolley cars for the cards. He assisted the local health officer and committee in seeing that arrangements were made for advertising the exhibit in churches, schools and various other places. He reported to the Department as to the size of the hall, decorations, etc., the publicity he had arranged for and the interest displayed by the community in general. Lantern slides, which gave the dates and hours of the exhibit, were distributed to the local motion picture houses and they flashed the notices of the exhibit on the screen before every audience.

EXHIBIT WEEK

The exhibit usually opened on Wednesday morning, though sometimes, when there was to be a formal opening, this was delayed until the afternoon or evening. The exhibit manager usually arranged to have the school children visit the exhibit by grades in the morning. An effort was made to hold the meetings in the same building occupied by the exhibit. In a number of cities, in addition to the exhibit furnished by the Department, the local committee prepared an exhibit of its own which consisted of photographs and statements showing the extent of the infant

Digitized by Google

welfare work done, and literature and other information on this work was distributed. The participation of the people of the city in preparing an exhibit of their own is one of the greatest means of interesting a community in child welfare work. The public meetings were found to be of great help in arousing public opinion and local pride in establishing an infant welfare station and in securing an active, aggressive committee to continue work after the campaign.

PUBLIC MEETINGS

An effort was made at these meetings not alone to present vital points of the campaign but also to interest the people of the community so that they would undertake some active infant welfare work and more especially to secure the services of an infant welfare nurse and to establish an infant welfare station. The local speakers, such as the mayor or village president, as well as other influential people, were given a prominent place on the program as it was not the intention of the Department to have their speakers monopolize the evening. As far as possible, all the speakers were limited to from twenty to thirty minutes so as to afford time to present not only the general question outlined by the Department but the community problem as would be discussed by the local speakers. Many of the Department speakers used stereopticon slides to illustrate their remarks, and in some cities reels of motion pictures elucidating infant welfare work were outlined and these films were shown in the local motion picture houses in a number of places.

The general scheme of the meetings was to have a program which would be carried out each week under the auspices of a specific group, as, for instance:

Wednesday: "Civic Night."—Addresses by mayor, health officer and other officials.

Thursday: "Women's Night."—Program arranged by the women's clubs, etc.

Friday: "Labor Night."—Under the auspices of the local labor unions, etc.

Although these meetings could be organized under the auspices, as suggested, the entire public was invited and urged to attend.

Digitized by Google

APPENDIX II

Albany

Population — 102,961.
Births — (1913) 1,899; (1914) 2,115.
Number of infants' deaths — (1913) 270; (1914) 267.
Infant mortality rate — (1913) 142; (1914) 126.

INFANT WELFARE WORK

Infant welfare stations, two. Supported by voluntary contributions. Under auspices of Central Christian Mothers' Union. No municipal support. Open during summer months. Two visiting nurses.

Day nurseries, two: St. Vincent's, corner of Green and South Ferry streets; The Deaconess, 100 Dallius street.

Infants' institutions, two: St. Margaret's House and Hospital; Francis Elliot Austin Infants' Home.

Visiting nurse, Albany Guild (five nurses).

The Child Welfare Exhibit was shown in the State Education Building from Wednesday, May 20, to Friday, May 22. In connection with the State exhibit, the Rochester and the National Child Welfare Exhibits were shown. School children attended and there was much newspaper publicity. The Camp Fire Girls and Boy Scouts acted as ushers and guides. One evening meeting was held at which, in the absence of Dr. Finley, Dr. Shaw presided. Dr. Linsly R. Williams, Dr. Thomas E. Finegan and Dr. S. Josephine Baker addressed the meeting.

YEARLY REPORT OF INFANT WELFARE STATIONS

Stations, 2; time in operation 7 months (June 19 to January 15, 1915).

Total number babies cared for during year	201
Total number sick babies treated	17
Total number well babies	194
Total number breast-fed babies	95
Total number bottle babies	106
Total number home visits by nurse to well babies	1,025
Total number home visits by nurse to sick babies	45
Total number mothers instructed	528
Total number quarts of milk dispensed	2,540
Total number babies died	1
Total number enrolled in Little Mothers' Leagues	49

Amsterdam

Population — 35,223.
Births — (1913) 866; (1914) 1,067.
Number of infants' deaths — (1913) 122; (1914) 119.
Infant mortality rate — (1913) 141; (1914) 112.

INFANT WELFARE WORK

Infant welfare stations, one. Supported by voluntary contributions. Under auspices of Child Welfare Association. Open during summer months. One infant welfare nurse and assistant.

The Child Welfare Exhibit was shown in a large hall furnished by the city from Wednesday, May 27 to Saturday, May 30. Three evening meetings

Digitized by Google

were held, which were addressed by the following speakers: Mayor J. R. Cline, Dr. Meader, Dr. Thomas, Rev. Dr. McEwan, Mrs. W. H. Cooper, Mrs. E. Finigan, Miss Louise Bell, Dr. Hicks, Dr. White, Dr. Schiller, Rev. Father Meagher.

The infant welfare committee decided to erect a milk station and at the close of the Exhibit $1,000 had been donated for this purpose. The station was formally opened on June 23 and has been in operation since. Pasteurized milk, sterile barley and oatmeal water are kept constantly on hand.

YEARLY REPORT OF INFANT WELFARE STATION

Stations, 1; time in operation, 6 months (June 23 to December 31).

Total number of babies cared for during year	125
Total number sick babies treated	75
Total number well babies treated	50
Total number partially breast-fed babies	20
Total number bottle babies	105
Total number home visits by nurse to well babies	30
Total number home visits by nurse to sick babies	65
Total number mothers instructed	150
Total number quarts of milk dispensed	17,480
Total number babies died	3

Auburn

Population — 36,509.
Births — (1913) 662; (1914) 750.
Number of infants' deaths — (1913) 92; (1914) 85.
Infant mortality rate — (1913) 139; (1914) 113.

INFANT WELFARE WORK

Infant welfare stations, none.

Day nurseries, one. Conducted for the care of children whose mothers work by day.

The Child Welfare Exhibit was shown in the State Armory from Wednesday, July 22, to Saturday, July 25. The newspapers gave good publicity, the motion picture houses showed the educational films and the Metropolitan Insurance Company supplied large amounts of literature on the subject. There were three evening meetings at which the following speakers gave their services: Mayor Chas. W. Brister, Dr. Linsly R. Williams, Rev. Dr. Chas. G. Richards, Dr. Thos. C. Sawyer, District Attorney A. H. Clark, Dr. F. W. Sears, Dr. Lee R. Thomas, Mrs. Arnold S. Yantis, Mrs. E. M. Finigan, Dr. Nettie E. Jenkins, Dr. A. Belle Hichens.

Although Auburn was not successful in its efforts to have an infant welfare station established during 1914, Mayor Brister wrote Dr. Shaw that he believed the Exhibit and subsequent work of the Department had been instrumental in reducing the infant mortality rate of 1914 as against the summer of 1913; that another year the subject of a welfare station would be agitated and an effort made to get an appropriation from the city for that purpose.

Batavia

Population — 12,614.
Births — (1913) 301; (1914) 339.
Number of infants' deaths — (1913) 38; (1914) 46.
Infant mortality rate — (1913) 126; (1914) 136.

INFANT WELFARE WORK

Infant welfare stations, one. Established free of expense to municipality. Under the auspices of Child Welfare Association in connection with the

Digitized by Google

bureau of health. The equipment for a second station has been provided and will be in operation June, 1915.

The Child Welfare Exhibit was shown in the Court House from Wednesday, July 15, to Saturday, July 18. Dr. C. F. McCarthy, Health Officer, attended to the publicity. Music was furnished by an orchestra. At the evening meetings the speakers were: Dr. Patchin, Dr. Thomas, Miss Robbins, Rev. W. T. Wilber, Mrs. Finigan, Dr. Whitcombe, Dr. W. A. White, Dr. Shaw, Dr. McCarthy, Superintendent Ladd, District Attorney Coon, Rev. S. U. Mock.

YEARLY REPORT OF INFANT WELFARE STATION

Stations, 1; time in operation, 4 months (to January 1, 1915).

Total number babies cared for during year	82
Total number sick babies treated	7
Total number well babies treated	75
Total number breast-fed babies	74
Total number bottle babies	7
Total number home visits by nurse to well babies	883
Total number home visits by nurse to sick babies	246
Total number mothers instructed	80
Total number quarts of milk dispensed, free	411
Total number babies died	1
Total number enrolled in Little Mothers' Leagues	45
Total number prenatal care	8

Bath

Births—(1913) 51; (1914) 62.
Number of infants' deaths—(1913) 7; (1914) 6.
Infant mortality rate—(1913) 137; (1914) 97.

INFANT WELFARE WORK

No report of any infant welfare activities.

The Child Welfare Exhibit was shown in the Court House from Wednesday, June 24, to Saturday, June 27. Many visited the Exhibit from surrounding towns and there was much publicity. Instructions given by the nurse in charge to expectant mothers. The Camp Fire Girls and those from the Davenport Home attended in a body and were given instructions in washing and dressing the baby, pasteurizing milk, the care of bottles, utensils, etc. No infant welfare station was established as result of the Exhibit, and in explanation Village President Parker stated that Bath had a very good milk supply, few foreign families and there had been only nine infants' deaths in three years with a population of 4,000.

There were three evening meetings at which the following speakers gave an address: Village President Parker, Dr. Meader, Rev. Dr. Purdy, Mr. Elkins, Dr. White, Mrs. Finigan, Dr. Thomas, Dr. Conway, Dr. Matthewson, Rev. W. L. Davidson, Rev. T. W. Carter, Rev. John T. Cameron.

Beacon

Population—11,319.
Births—(1913) 244; (1914) 243.
Number of infants' deaths—(1913) 30; (1914) 24.
Infant mortality rate—(1913) 123; (1914) 99.

INFANT WELFARE WORK

No report of any infant welfare activities.

The Child Welfare Exhibit was shown in the Knights of Columbus Hall from Thursday, April 30, to Saturday, May 2. There were two evening

Digitized by Google

meetings addressed by the following speakers: Mayor Frost, Dr. Wolff, Dr. Dugan, Mr. Smalley, Mrs. Finigan.

Addresses were made in the schools by Dr. Wolff, Mr. Smalley and Mrs. Finigan.

Dr. Dugan reported that as a result of the Exhibit one of the milk distributors pasteurized his milk and it was recommended to all infants who needed milk as a diet. A visiting nurse called once a week upon babies who were bottle-fed, saw that they were bathed and weighed and a physician consulted if the case warranted.

Buffalo

Population — 454,112.
Births — (1913) 11,867; (1914) 12,639.
Number of infants' deaths — (1913) 1,638; (1914) 1,524.
Infant mortality rate — (1913) 138; (1914) 121.

INFANT WELFARE WORK

Infant welfare stations, 10. In charge of the city health department and under the supervision of the District Nursing Association. Modified milk, adapted to the requirement of each infant, is sold at the Babies' Milk Dispensary. The Charity Organization Society provides milk in poor families.

Day nurseries, 6: The Fitch Creche, Swan and Michigan streets; College Creche, 77 Goodell street; Remington Mission, 156 Erie street; Felician Sisters, 790 Fillmore avenue; Mt. Carmel Guild, 1435 Broadway; Babies' Milk Dispensary, 181 Franklin street.

Infants' institutions, 2: Children's Hospital, 219 Bryant street; Tuberculosis Pavilion for Children, 770 East Ferry street.

A request was not made for the Child Welfare Exhibt as there had been a very large exhibit shown on infant welfare activities the year previous.

YEARLY REPORT OF INFANT WELFARE STATIONS

Stations, 10; in operation, (1909) 2; (1910) 2; (1912) 1; (1913) 2; (1914) 3; length of time in operation, 4 years from August 1, 1914.

	Private Organizations	Dep't Stations	Total
Total number of babies cared for during year	1,589	329	1,918
Total number of sick babies treated	304	116	420
Total number of well babies treated	1,285	273	1,558
Total number of breast-fed babies	468	198	666
Total number of bottle babies	464	89	553
Total number of home visits by nurses to well babies	10,992	1,935	12,927
Total number of home visits by nurses to sick babies	2,432	236	2,668
Total number of mothers instructed	3,902	386	4,288
Total number of quarts of milk dispensed	84,796	3,053	87,849
Total number of babies died:			
Under one year	28	5	.....
Over one year	2	.....	35
Total number babies during year			1,589
Total number babies discharged			950
Total number remaining under care, January 1, 1915			639
Total number clinics during year			376
Total number babies weighed, 1914			7,548

Digitized by Google

Catskill

Births — (1913) 66; (1914) 94.
Number of infants' deaths — (1913) 13; (1914) 7.
Infant mortality rate — (1913) 197; (1914) 74.

INFANT WELFARE WORK

No report of any infant welfare activities.

The Child Welfare Exhibit was shown at the Public Library from Wednesday, May 6, to Friday, May 8. There were two evening meetings at which addresses were made by the following speakers: Dr. Shaw, Dr. Willard, Miss Jackson, Mr. Smalley, Dr. Wolff, Village President Austin, Dr. Selden, Mrs. Finigan, Miss Rennert.

Dr. Wolff, Mrs. Finigan and Miss Rennert also gave talks to school children.

The slogan used by Catskill at the Exhibit was, "Give the Babies a Chance." As a result of the Exhibit the village president appointed a committee to raise money and make plans for a visiting nure. No infant welfare station was established but the question continues under consideration.

Cohoes

Population — 25,049.
Births — (1913) 648; (1914) 554.
Number of infants' deaths — (1913) 85; (1914) 96.
Infant mortality rate — (1913) 131; (1914) 173.

INFANT WELFARE WORK

Infant welfare stations, 1. Open during summer months. Under the auspices of Committee for the Prevention of Tuberculosis of the State Charities Aid Association. Two visiting nurses.

Day nurseries, 2: Harmony St. Day Home and Van Vechten St. Day Home.

The Child Welfare Exhibit was shown in Cohoes from Wednesday, May 13, to Saturday, May 16. Much publicity was afforded the exhibit. Three evening meetings were held. The speakers were: Mayor Calkins, Health Commissioner Flood, Dr. Mott, Dr. Mitchell, Dr. Duryee, Dr. Keough, Dr. Shaw, Dr. Thomas, Mr. C. R. Ford, Mrs. Finigan, Dr. White.

As a direct result of the Exhibit an appropriation was made by the local board of health for the services of a public health nurse for the summer. Mayor Calkins wrote Dr. Shaw that very enthusiastic and satisfactory work was being done by the infant welfare department of Cohoes.

YEARLY REPORT OF INFANT WELFARE STATION

Stations, 1; time in operation, 3 months, June, July and August.

Total number babies cared for during year	51
Total number sick babies treated	51
Total number well babies treated	0
Total number breast-fed babies	2
Total number bottle babies	49
Total number home visits by nurse to sick and well babies	554
Total number mothers instructed	206
Total number quarts of milk dispensed	?
*Total number babies died	2

---

* Six children sent to Cohoes Hospital for treatment at the expense of the Welfare Committee. Of these, two died.

Digitized by Google

Corning

Population — 14,866.
Births — (1913) 266; (1914) 280.
Number of infants' deaths — (1913) 32; (1914) 34.
Infant mortality rate — (1913) 120; (1914) 121.

INFANT WELFARE WORK

Infant welfare stations, 1. Under auspices of Social Service Society. Health Department nurse in charge. Married nurses detailed for observation work and to do home educational work. Visits to sick babies by city nurse. Two volunteer nurses.

No report of any other infant welfare activities.

The Child Welfare Exhibit was shown in the City Hall from Wednesday, June 24, to Saturday, June 27. In connection with the State Exhibit were the Metropolitan Insurance Company and the Russell Sage Foundation Exhibits. Three evening meetings were held at which addresses were made by the following speakers: Mayor Lattin, Dr. Swain, Dr. White, Mr. H. W. Baldwin, Dr. Shaw, Rev. J. N. Bustin, Rev. Malcolm Johnson, Mrs. E. M. Finigan.

The establishment of an infant welfare station in August was the direct result of the Exhibit.

YEARLY REPORT OF INFANT WELFARE STATION

Stations, 1; time in operation ——.

Total number babies cared for during year	29
Total number sick babies treated	3
Total number well babies treated	26
Total number breast-fed babies	24
Total number bottle babies	5
Total number home visits by nurse to well babies	60
Total number home visits by nurse to sick babies	22
Total number mothers instructed	5
Total number quarts of milk dispensed	184
Total number babies died	0

Cortland

Population — 12,565.
Births — (1913) 236; (1914) 230.
Number of infants' deaths — (1913) 20; (1914) 32.
Infant mortality rate — (1913) 85; (1914) 139.

INFANT WELFARE WORK

No report of any infant welfare activities but there is a Russian and Italian settlement where education along the lines of health is furnished.

The Child Welfare Exhibit was shown in a club house from Wednesday, June 17, to Saturday, June 20. Mayor Angell was unable to be present at the formal opening and sent Mayor Van Brocklin of the Junior Municipality in his place. Three evening meetings were held and addresses were made by the following speakers: Dr. Thomas, Dr. White, Dr. Ball, Rev. W. W. Way, Mrs. Chas. R. Lusk, Mrs. Finigan.

The infant mortality rate in Cortland is low so no infant welfare station was established but it was thought that having the Exhibit shown at the county fair in conjunction with a Better Babies' Contest would be a decided advantage. (See report of county fairs.) A considerable number of mothers came from some distance out of town to receive instruction and advice as to the care of children.

Digitized by Google

Dunkirk

Population — 19,607.
Births — (1913) 585; (1914) 548.
Number of infants' deaths — (1913) 68; (1914) 54.
Infant mortality rate — (1913) 116; (1914) 99.

INFANT WELFARE WORK

No report of any infant welfare activities.

The Child Welfare Exhibit was shown in the Hotel Gratiot from Wednesday, July 1, to Friday, July 3. Dr. Ellis, the health officer, was of great assistance in advancing the interests and advocating the necessity of a welfare station. The idea of having a welfare station seemed to appeal to all and only seemed to require a leader to push it on to success. The question continues under consideration, the Lend-a-Hand Society being much interested in the project. There were two evening meetings at which addresses were made by Mayor Sullivan, Drs. Mahoney, Ellis, Bozovsky, Thomas and White, Rev. Father Dempsey, Rev. Badgley, Supt. of Schools N. L. Englehart, Mrs. Finigan and Hon. T. P. Heffernan.

Elmira

Population — 37,816.
Births — (1913) 736; (1914) 801.
Number of infants' deaths — (1913) 74; (1914) 85.
Infant mortality rate — (1913) 101; (1914) 106.

INFANT WELFARE WORK

Infant welfare stations, 1. Under the auspices of the Federation for Social Service and the cooperation of the Department of Health. Expense borne by Federation. Public health nurse does "follow up" work. Attending nurses supplied by Arnot Ogden Hospital.

Day nurseries, 1.

Infants' institutions, 1. Industrial School and Free Kindergarten Association.

Visiting nurse, Women's Federation nurses; Metropolitan Life Insurance Co. nurses.

The Child Welfare Exhibit was shown in the Women's Federation building from Wednesday, June 17, to Saturday, June 20. As a direct result of the Exhibit a welfare station was established. The slogan adopted by the city was "Safety First." There were three evening meetings and addresses were made by the following speakers: Mayor Hoffman, Dr. F. B. Parke, Supt. of Schools Jacoby, Dr. W. A. White, Dr. R. G. Loop, Mrs. Finigan, Dr. H. L. K. Shaw, Dr. Anna Stuart, Dr. Crum, Dr. Thomas, Rev. Rudolph Vieweg, Rev. A. J. Saxe.

Mr. Smalley lectured in the schools.

YEARLY REPORT OF INFANT WELFARE STATION

Stations, 1; time in operation, 2 months.

Total number babies cared for during year	16
Total number sick babies treated	12
Total number well babies treated	4
Total number breast-fed babies	10
Total number bottle babies	6
Total number home visits by nurse to well babies	40
Total number home visits by nurse to sick babies	10
Total number mothers instructed	16
Total number quarts of milk dispensed	0
Total number babies died	1

Digitized by Google

Fort Plain

The Child Welfare Exhibit was shown in the Methodist Episcopal church during Conference week, from Wednesday, November 11 to Saturday, November 14. The Exhibit was well advertised and came in for a large share of attention. The nurse in charge was kept busy answering the many interesting inquiries. On November 10 Dr. Shaw gave an illustrated talk before a large audience on "The Conservation of the Baby," and other addresses were made in connection with the child welfare movement, one being a stereopticon lecture by Dr. Clinton P. McCord, entitled "Backward, Nervous and Peculiar Children." Fort Plain has no infant welfare station but it is expected that this question will be agitated at some future date.

Fulton

Population — 11,448.
Births — (1913) 251; (1914); 332.
Number of infants' deaths — (1913) 36; (1914) 45.
Infant mortality rate — (1913) 143; (1914) 136.

INFANT WELFARE WORK

Infant welfare stations, 1. Supported by private contributions. Child welfare work in charge of two committees (Women's Auxiliary and Women's Civic League).

No report of any other infant welfare activities.

The Child Welfare Exhibit was shown in the City Hall from Wednesday, June 10, to Saturday, June 13. Publicity furnished by Fulton Times and motion picture houses. A direct result of the Exhibit was the establishment of a welfare station. Mrs. Finigan talked in the schools; Drs. Lake and Hall gave talks on infant welfare; Mr. Smalley addressed the Women's Civic League and the Shakespeare club. Three evening meetings were held and addresses were made by the following speakers: Mayor Fox, Prof. Faugueres, Dr. Whitaker, Dr. Meader, Hon. J. L. Wilson, Rev. Mr. Holmes, Dr. Thomas.

Yearly report of Infant Welfare Station not received.

Geneva

Population — 13,303.
Births — (1913) 264; (1914) 333.
Number of infants' deaths — (1913) 33; (1914) 40.
Infant mortality rate — (1913) 125; (1914) 120.

INFANT WELFARE WORK

No report of any infant welfare activities.

The Child Welfare Exhibit was shown from Wednesday, July 22, to Saturday, July 25. A committee was appointed to organize infant welfare work and plan for a welfare station. Publicity furnished by the Geneva Times. Three evening meetings were held at which addresses were made by the following speakers: Mayor Gulvin, Dr. Meader, Mrs. Finigan, Judge R. Thompson, Dr. Crum, Dr. Allen, Dr. Parmenter, Supt. of Schools Merrill and Mr. Smalley.

Glens Falls

Population — 16,362.
Births — (1913) 332; (1914) 332.
Number of infants' deaths — (1913) 23; (1914) 37.
Infant mortality rate — (1913) 69; (1914) 115.

Digitized by Google

INFANT WELFARE WORK

Infant welfare stations, 1. Under the auspices of the Infant Welfare Committee. Visiting nurse.

Day nursery.

Home nursing classes under direction of nurses.

The Child Welfare Exhibit was shown in Glens Falls from Wednesday, May 20, to Friday, May 22, and resulted in the establishment of a welfare station. There were three evening meetings when addresses were made by the following speakers: Mayor Griffen, Dr. Duryee, Dr. Palmer, Supt. of Schools Griffith, Mr. E. H. Clark, Dr. Annette E. Barber, Mrs. L. Arthur, Mrs. E. Reed, Mrs. J. C. Hemmingway, Mr. Elmer J. West, Dr. Thomas, Dr. Maslon, Dr. McKee, Mr. Geo. F. Bayle, Mrs. Finigan, Miss Helen Streeter, Mrs. J. W. Walters.

As an instance of the educative influence of the welfare station (Glens Falls Star, June 9, 1914), an Italian mother brought her baby there for treatment and when the attending physician removed some of the surplus clothing that was tightly wrapped about the little body, the child began to improve and soon was a happy, healthy youngster. Mayor Griffin wrote Dr. Shaw that over 2,000 children visited the station attended by their mothers who received instruction.

YEARLY REPORT OF INFANT WELFARE STATION

Stations, 1; time in operation (June 10, 1914 to date).

Total number babies cared for during year	108
Total number sick babies treated	34
Total number well babies treated	64
Total number breast-fed babies	30
Total number bottle babies	52
Total number home visits by nurse to well babies	315
Total number home visits by nurse to sick babies	400
Total number mothers instructed	55
Total number quarts of milk dispensed	587
*Total number babies died	3
Total number enrolled in Little Mothers' Leagues (during summer months), at station	90

Gloversville

Population — 21,618.

Births — (1913) 384; (1914) 455.

Number of infants' deaths — (1913) 50; (1914) 43.

Infant mortality rate — (1913) 130; (1914) 95.

INFANT WELFARE WORK

Infant welfare stations, 1. Under the auspices of the Day Nursery Association.

Day nurseries, 1.

District nurse.

The Child Welfare Exhibit was shown in the Y. M. C. A. building from Friday, May 29, to Saturday, May 30. Much publicity was given and very good music furnished the meetings. Two evening meetings were held at which the following speakers gave addresses: Mayor Schermerhorn, Dr. Thomas, Dr. Lenz, Rev. W. C. Spicer, Dr. Johnson, Dr. Meader, Dr. Wood and Prof. E. Merritt.

Mr. Smalley lectured to the pupils of the High and Grammar schools. A direct result of the Exhibit was the establishment of an infant welfare station which was made possible by the cooperation of the Day Nursery Association.

---

* One of these deaths not accredited to station, since it was referred to the welfare people at the last moment and was in their charge but 24 hours.

Digitized by Google

YEARLY REPORT OF INFANT WELFARE STATION

Number of stations, 1; time in operation, 3 months.

Total number babies cared for during year	96
Total number sick babies treated	10
Total number well babies treated	65
Total number breast-fed babies	35
Total number bottle babies	40
Total number home visits by nurse to well babies	200
Total number home visits by nurse to sick babies	78
Total number mothers instructed	75
Total number quarts of milk dispensed	2088
Total number babies died	0

Hastings-on Hudson

Population — 5,380.
Births — (1913) 118; (1914) 118.
Number of infants' deaths — (1913) 11; (1914) 6.
Infant mortality rate — (1913) 93; (1914) 39.

INFANT WELFARE WORK

Infant welfare station, 1. Under the auspices of an Infant Welfare Committee. Visiting nurse.

No report of any other infant welfare activities.

YEARLY REPORT OF INFANT WELFARE STATION

Time in operation, June 25 to September 6, 1914.

Total number babies cared for during year (fed)	23
Total number sick babies treated	5
Total number well babies treated	18
Total number breast-fed babies	(no record kept)
Total number bottle babies	23
Total number home visits by nurse to well babies / Total number home visits by nurse to sick babies	691
Total number mothers instructed	50
Total number quarts of milk dispensed (certified)	399
*Total number babies died	2

Herkimer

Population — 8,158
Births — (1913) 228; (1914) 229.
Number of infants' deaths — (1913) 27; (1914) 19.
Infant mortality rate — (1913) 118; (1914) 88.

INFANT WELFARE WORK

Infant welfare stations, 1. Under the auspices of a Child Welfare Committee and the Board of Education. Visiting nurse.

No report of any other infant welfare activities.

The Child Welfare Exhibit was shown in the City Hall from June 3 to 6. Dr. Fagan and Dr. Cyrus Kay, town health officer, were locally in charge of the Exhibit. Three evening meetings were held, at which the fol-

* Of these, one was ill with pneumonia when fed, and only fed two days. The other was a home modification and died of an acute gastrointestinal infection lasting only a few hours.

Digitized by Google

lowing speakers gave addresses: Mayor Gray, Mr. Elmendorf, Superintendent of Schools, Dr. Thomas, Dr. Fagan, Col. J. W. Vroman, Dr. Kay, Rev. Father Harrigan, Mrs. E. M. Finigan, Dr. Shaw, Mr. Smalley.

As a direct result of the Exhibit the Village President suggested that the Child Welfare Committee and the Board of Education meet with the village board and ask for an appropriation to hire a school nurse and establish a welfare station.

YEARLY REPORT OF INFANT WELFARE STATION

Number of stations, 1; time in operation, during summer months.

Total number babies cared for during year	31
Total number visits by nurse to homes	325
Total number prenatal calls by nurse	40
Total number home visits to babies	125

No milk dispensed except in special cases, and then a formula was furnished at a nominal sum.

Hornell

Population — 14,341.
Births — (1913) 249; (1914) 267.
Number of infants' deaths — (1913) 29; (1914) 18.
Infant mortality rate — (1913) 116; (1914) 67.

INFANT WELFARE WORK

No infant welfare station.

Open-air Camp for 12 children, run for one month by visiting nurse, assisted by Humane Society and Antituberculosis Committee.

The Child Welfare Exhibit was shown in Federation Hall from Wednesday, June 24, to Saturday, July 27. The visiting nurse did a large part of the work usually performed by the welfare nurse. There were three evening meetings at which addresses were made by the following speakers: Dr. Linsly R. Williams, Hon. Richard Prangen, Dr. Redmond, Dr. Conway, Dr. Phillips, Dr. Ross, Dr. Thomas, Mrs. Finigan, Mrs. B. R. Wakeman, Mrs. Milo Acker.

Hudson

Population — 12,221.
Births — (1913) 267; (1914) 280.
Number of infants' deaths — (1913) 31; (1914) 32.
Infant mortality rate — (1913) 116; (1914) 114.

INFANT WELFARE WORK

Infant welfare stations, 1. Under the auspices of the Visiting Nurse Association. Nurses furnished by the Association.

No report of any other infant welfare activities.

The Child Welfare Exhibit was shown in the Old Hudson theater from Wednesday, May 6, to Saturday, May 9. Very little publicity and a dark, unattractive hall conspired to put the Exhibit at disadvantage, but as a direct result of the lectures, etc., money was subscribed and plans laid for an infant welfare station which was formally opened June 1. The milk sold at the station was to be furnished by tuberculin tested cows. Three evening meetings were held and addressed by the follows speakers: Dr. Van Hoesen (Mayor), Dr. Thomas, Rev. Dr. Fredendich, Dr. L. R. Williams, Dr. Meader, Dr. Wolff, Mr. Smalley, Mrs. Finigan

Digitized by Google

YEARLY REPORT OF INFANT WELFARE STATION

Number of stations, 1; time in operation (June 1 to September 12).

Total number babies cared for during year	44
Total number sick babies treated	18
Total number well babies treated	26
Total number breast-fed babies	6
Total number bottle babies	38
Total number home visits by nurse to well babies	30
Total number home visits by nurse to sick babies	99
Total number mothers instructed	12
*Total number quarts of milk sold (about)	2,177
Total number babies died	2

Ithaca

Population — 15,510.
Births — (1913) 276; (1914) 312.
Number of infant's deaths — (1913) 26; (1914) 20.
Infant mortality rate — (1913) 94; (1914) 64.

INFANT WELFARE WORK

Infant welfare stations, 1. In charge of the Board of Health. Visiting nurse.

Infant institutions, 1. Children's Home.

Tuberculosis nurse. Visiting nurse. Mother's Club.

The Child Welfare Exhibit was shown in two connecting stores from Wednesday, June 17, to Saturday, June 20. Much publicity was afforded by the town papers. All classes of people attended, and as a direct result of the Exhibit, funds were raised to establish a welfare station which was opened July 5. Ithaca is among the lowest cities for its death rate. Three evening meetings were held, and addresses were given by the following speakers: Mayor Tree, Dr. Crum, Prof. Boynton, Rev. Harrington, Dr. Thomas, Dr. Coville, Rev. E. A. George, Mrs. Finigan, Mrs. C. S. Northup, Miss A. M. Kemble, Mrs. V. D. Morse.

YEARLY REPORT OF INFANT WELFARE STATION

Number of stations, 1; time in operation, 3 months.

Total number babies cared for during the year	19
Total number sick babies treated	5
Total numbered well babies treated	14
Total number breast-fed babies	13
Total number bottle babies	6
Total number home visits by nurse to well babies	.....
Total number home visits by nurse to sick babies	.....
Total number mothers instructed	12
Total number quarts of milk dispensed	0
Total number babies died	0

Jamestown

Population — 34,878.
Births — (1913) 787; (1914) 795.
Number of infants' deaths — (1913) 92; (1914) 58.
Infant mortality rate — (1913) 117; (1914) 73.

INFANT WELFARE WORK

Infant welfare stations, 1. Under the auspices of the Visiting Nurse Association and the Board of Health. Two visiting nurses.

No report of any other infant welfare activities.

* No milk was given free.

Digitized by Google

The Child Welfare Exhibit was shown in the State Armory from Wednesday, July 1, to Friday, July 3, in connection with the Russell Sage Foundation Exhibit and an exhibit loaned by the Rochester board of health. A direct result of the Exhibit was the establishment of a welfare station. Three evening meetings were held at which addresses were given by the following speakers: Mayor Carlson, Dr. Cottis, Rev. Laird Wingate, Dr. Mahoney, Rev. H. G. Ogden, Dr. Thomas, Mr. Smalley, Rev. Critchlow, Dr. Wm. G. Bissell, Mrs. Finigan, Dr. Moore, Mr. A. F. Jenks, Rev. Felix Hansen, Rev. Caleb Moore, Mr. A. W. Kettle, Dr. White.

YEARLY REPORT OF INFANT WELFARE STATION

Number of stations, 1; time in operation, 6 months.

Total number babies cared for during the year	42
Total number sick babies treated	42
Total number breast-fed babies	10
Total number bottles babies	32
Total number home visits by nurse to sick babies	484
Total number mothers instructed	42
Total number visits to dispensary	106
Total number babies died	0

Johnstown

Population — 10,582.
Births — (1913) 188; (1914) 227.
Number of infants' deaths — (1913) 28; (1914) 15.
Infant mortality rate — (1913) 149; (1914) 66.

INFANT WELFARE WORK

No report of any infant welfare activities.

The Child Welfare Exhibit was shown at Johnstown from Tuesday, May 26, to Wednesday, May 27. Two evening meetings held; music furnished at both by a high school orchestra. While everyone admitted that an infant welfare station was needed, since in 1913 the infant mortality was double what it was in 1912, it was decided that one could not be established during 1914 owing to its interference with other activities already planned for. The meetings were addressed by the following speakers: Mayor Smith, Dr. Thomas, Dr. White, Dr. Somers, Dr. Hogan, Dr. Calder, Mrs. Finigan, Mrs. Palmer, Miss McGee, Prof. Ackley, Mr. Smalley.

Kingston

Population — 26,493.
Births — (1913) 404; (1914) 446.
Number of infants' deaths — (1913) 49; (1914) 41.
Infant mortality rate — (1913) 121; (1914) 92.

INFANT WELFARE WORK

No report of any infant welfare activities.

The Child Welfare Exhibit was shown at the State Armory from Wednesday, May 6, to Saturday, May 9. Excellent newspaper publicity and in the schools the children were urged to attend though not during school hours. The factories were visited and as a result many of the factory girls and some of the men attended. Music was furnished by Women's Federation of Clubs. The nurse weighed over 50 babies and gave prenatal instructions to a large number of expectant mothers. Kingston has no milk station but a children's

Digitized by Google

clinic was held in connection with the W. F. of C. Three evenings meetings were held and addresses made by the following speakers: Mayor Canfield, Prof. Michael, Admiral Higginson, Dr. Stelle, Dr. Thomas, Dr. Wolff, Dr. Shaw, Mrs. M. J. Michael, Dr. Mary Gage-Day, Mrs. Finigan, Mr. A. Connerly.

Lackawanna

Population — 19,012.
Births — (1913) 659; (1914) 685.
Number of infants' deaths — (1913) 263; (1914) 240.
Infant mortality rate — (1913) 399; (1914) 350.

INFANT WELFARE WORK

No infant welfare station.

Infants' institutions, 2. Father Baker's Infant Home; Sister Theresa's Infant Home.

Social Center Visiting nurse. Board of Health nurse. School nurse.

The Child Welfare Exhibit was shown in the high school auditorium from Wednesday, July 8, to Saturday, July 11. Three evening meetings were held at which addresses were made by the following speakers: Mayor Widmer, Dr. Thomas, Dr. Wilkins, Rev. Father Baker, Rev. Podlewski, Dr. Sullivan, Dr. Edward Clark, Dr. Frerett.

Nearly all of the population near the Exhibit was foreign. The mayor, all of the physicians and some members of the Chamber of Commerce were in favor of a welfare station as the infant mortality rate in Lackawanna is almost the highest in the State, notwithstanding Dr. Wilkins' statement that 91 per cent of the babies are breast-fed. The school nurse visits all the babies' homes in July and August and reports condition of each baby to the health officer who in turn submits it to the board of health for appropriate action.

Lake Placid

The Child Welfare Exhibit was shown in the Town Hall from Monday, Dec. 14, to Saturday, Dec. 19. Dr. Merritt E. Proctor, the health officer, had the Exhibit widely advertised and it was so great a success that request was made for it in other nearby vicinities. Dr. Proctor reported to Dr. Shaw that the Exhibit was a "hummer" and attracted much interest. On Monday and Wednesday evenings moving pictures were shown at Happy Hour theater in connection with the pictures of their regular show. On Thursday evening Dr. De Vilbiss lectured; in the afternoon she conducted a Better Baby examination, giving advice and instructions to mothers in caring for, dressing and feeding their babies. Local speakers helped to provide a very interesting program.

Le Roy

The Child Welfare Exhibit was shown in the high school building from Nov. 19 to 21. In addition, the students had an exhibit showing domestic science work. All of the mercantile houses did publicity work and everyone showed a spirit of hearty cooperation. The agricultural class demonstrated a new milk clarifier and various modern milk appliances and equipments, a working model of a septic tank being shown. The Board of Trade, the principal of the high school and the Board of Health worked together for the success of the Exhibit. The following speakers addressed the evening meetings: Dr. Shaw, Dr. Patchin, Dr. Davis, Dr. De Vilbiss.

Digitized by Google

Dr. Leary of Rochester, who is head of the Iola Sanatorium, spoke on "Public Health." A public health nurse was appointed, her work to be done in conjunction with local physicians, the purpose being to give advice and assistance to those families whose circumstances would not permit the employment of a nurse.

No report of any organized infant welfare activities.

Little Falls

Population — 13,077.
Births — (1913) 372; (1914) 416.
Number of infants' deaths — (1913) 60; (1914) 69.
Infant mortality rate — (1913) 161; (1914) 166.

INFANT WELFARE WORK

Infant Welfare stations, 1. Under the auspices of the Fortnightly Club. Open 8 weeks in 1913; three months in 1914. Visiting nurse.

No report of any other infant welfare activities.

The Child Welfare Exhibit was shown in a vacant store from Wednesday, June 3, to Saturday, June 6. Three evening meetings were held and all the speakers made plain the objects of the Exhibit — the reduction of infant mortality, establishment of Little Mothers' Leagues and provision for welfare stations. A great many young members attended and were instructed by the Department nurse in charge. Addresses were made by the following speakers: Dr. Shaw, Supt. of Schools, Mr. De Camp, Dr. Thomas, Dr. Glidden, Mr. Burrell, Miss Rose Ellison, Dr. White, Mayor Shall, Dr. Santry, Mrs. Finigan, Mrs. Eveleth, Mrs. Frederiksen, Miss Rennert.

YEARLY REPORT OF INFANT WELFARE STATION

Number of stations, 1; time in operation, three summer months.

Total number babies care for during year	49
Total number sick babies treated	32
Total number well babies treated	17
Total number breast-fed babies	15
Total number bottle babies	19
Total number home visits by nurse to well babies	(no record kept)
Total number home visits by nurse to sick babies	398
Total number mothers instructed	27
Total number quarts of milk dispensed	0
Total number babies died	1

Lockport

Population — 19,581.
Births — (1913) 352; (1914) 348.
Number of infants' deaths — (1913) 57; (1914) 36.
Infant mortality rate — (1913) 162); (1914) 103.

INFANT WELFARE WORK

Visiting nurse connected with Lockport Tuberculosis Dispensary. County Agent for Dependent Children.

No report of any organized infant welfare activities.

The Child Welfare Exhibit was shown from Wednesday, July 15, to Saturday, July 18. Three evening meetings were held. At these addresses were made by the following speakers: Mayor Brock, Judge C. W. Pound, Father Leddy, Rev. T. C. Grieves, Dr. Leo Wolff, Dr. Thomas, Dr. Watters, Rev. Chas. Collette, Mrs. Jennie Peterson, Mrs. Finigan, Miss Easton,

Digitized by Google

An attempt was made to establish a welfare station but the funds could not be procured at short notice so it was decided to lay the matter aside until 1915. The city's tuberculosis nurse has done much good work among the babies in connection with her regular duties.

Lyons

No report of any infant welfare activities.

The Child Welfare Exhibit was shown in the school chapel from Friday, July 17 to Saturday, July 18. The Exhibit was a decidedly new feature but took well, was well spoken of by those present and it was felt that good would result. Two evening meetings were held. A committee was appointed to confer with the Welfare Committee of Newark to discuss means of establishing and maintaining welfare stations and jointly engage a nurse. Addresses were made by the following speakers: Judge C. W. Knapp, Dr. Ostrander, Dr. Thomas, Mr. Smalley, Dr. Veeder, Dr. Carmer, Mr. W. G. David, Mrs. Finigan.

Mount Morris

The Child Welfare Exhibit was shown in the Village Hall from Wednesday, Oct. 28, to Saturday, Oct. 31. The population is largely Italian and there is great need of welfare work. A welfare nurse should be employed to educate the mothers. The greater number of children attend the parochial schools. Considerable publicity was given and the health officer worked energetically. Dr. Borzilerro consented to make an address in Italian so that the Italian parents would give their consent to the children attending Little Mothers' Leagues in the schools. Dr. Leach hopes to arrange for an infant welfare committee who will secure funds and equipment for a welfare station by spring, and also employ a visiting nurse.

Mount Vernon

Population — 35,047.
Births — (1913) 852; (1914) 906.
Number of infants' deaths — (1913) 85; (1914) 69.
Infant mortality rate — (1913) 100; (1914) 76.

INFANT WELFARE WORK

Infant welfare stations, 1. Maintained by Infant Welfare Society. No municipal support. Visiting nurse.

Day nurseries, 1. Associated Charities Day Nursery.

The Child Welfare Exhibit was shown in the Public Library from Wednesday, May 13, to Friday, May 15. A welfare station was established in August as a result. "Save the Babies" was the slogan adopted for the Mt. Vernon Exhibit. Three evening meetings were held. Addresses were made by the following speakers: Mayor Fiske, Dr. Shaw, Alderman Lang, Dr. Quinn, Dr. Thomas, Mr. Smalley, Mrs. Jos. S. Wood, Dr. Campbell, Dr. Holmes, Dr. Wolff, Dr. S. Josephine Baker, Mrs. Finigan.

YEARLY REPORT OF INFANT WELFARE STATION

Number of stations, 1; time in operation, 2 months.

Total number babies cared for during year	35
Total number sick babies treated	35
Total number well babies treated	0
Total number breast-fed babies	9

Digitized by Google

Total number mixed feedings	10
Total number bottle babies	16
Total number home visits by nurse to well babies	0
Total number home visits by nurse to sick babies	26
Total number mothers instructed	35
Total number quarts of milk dispensed (free)	209
Total number babies died	2

Newark

The Child Welfare Exhibit was shown in the Park Presbyterian church from July 14 to 15. Very good interest was shown considering the other attractions competing at the time. Two public meetings were held at which addresses were made by Dr. Young, Mr. P. H. Collins, Rev. J. J. Gibbons, Mrs. Finigan, Mr. W. M. Gould and Rev. C. M. Creighton. All of the officers of the Child's Welfare League were away for the summer but Dr. Young promised to appoint a committee to take up the matter of a welfare station with a similar committee at Lyons.

Newburgh

Population — 29,023.
Births — (1913) 508; (1914) 606.
Number of infants' deaths — (1913) 69; (1914) 57.
Infant mortality rate — (1913) 136; (1914) 94.

INFANT WELFARE WORK

Infant welfare stations, 1. Under the auspices of the Board of Health.
No report of any other infant welfare activities.
The Child Welfare Exhibit was shown in a vacant store. It was noted that a large percentage of the attendance comprised farmers and dairymen, the latter examining with interest the placards giving directions for improving the milk supply and conditions at dairies. One result was the establishing of an infant welfare station. The Common Council voted $500; the cost of the station was $300, leaving a balance for next year. The welfare nurse will do "follow up" work.

YEARLY REPORT OF INFANT WELFARE STATION

Number of stations, 1; time in operation, two months.

Total number babies cared for during year	146
Total number sick babies treated	25
Total number well babies treated	121
Total number breast-fed babies	77
Total number bottle babies	45
Total number home visits by nurse to well babies	34
Total number home visits by nurse to sick babies	19
Total number mothers instructed	89
Total number quarts of milk dispensed	37
*Total number babies died	2

* There was a reduction of 21 per cent infants' deaths during 1914. The number of infants' deaths under 1 year was 71 in 1913 against 56 in 1914.

Digitized by Google

Niagara Falls

Population — 35,127.
Births — (1913) 1324; (1914) 1430.
Number of infants' deaths — (1913) 171; (1914) 169.
Infant mortality rate — (1913) 129; (1914) 118.

INFANT WELFARE WORK

Infant welfare stations, 1. Under the auspices of the Child Welfare Association.

No report of any other infant welfare activities.

The Child Welfare Exhibit was shown in the Armory from Wednesday, July 8, to Friday, July 11. Much publicity was given. Three evening meetings were held and addresses were made by the following speakers: Mayor Laughlin, Rev. Mr. Racon, Dr. Gullick, Dr. Edward Clark, Dr. Carl G. L. Wolff, Mr. Edward Franchot, Rev. H. Brezing, Dr. Shaw, Supt. of Schools, Mr. Herbert Taylor, Dr. Linsly Williams, Dr. Thomas, Mrs. Finigan, Dr. Fred Leighton.

Several mothers were given instruction by Miss Rennert. Niagara Falls has no milk ordinance and the milk supply is bad but the local association has been doing good work.

YEARLY REPORT OF INFANT WELFARE STATION

Number of stations, 1; time in operation, June 29 to date.

Total number babies cared for during year	87
Total number sick babies treated	59
Total number well babies treated	28
Total number breast-fed babies	31
Total number bottle babies	34
Total number visits by nurse to well and sick babies	2250
No special instructions given mothers except at clinics and nurse's visits.	
Total number quarts of milk dispensed	2500
Total number babies died	2

Little Mothers' Leagues under consideration.

North Tonawanda

Population — 13,184.
Births — (1913) 383; (1914) 418.
Number of infants' death — (1913) 59; (1914) 54.
Infant mortality rate — (1913) 154; (1914) 129.

INFANT WELFARE WORK

Infant welfare stations, 1. Under the auspices of the Infant Welfare Society.

No report of other infant welfare activities.

The Child Welfare Exhibit was shown in the Twin City Y. M. C. A. building from Wednesday, July 8, to Saturday, July 11. The local Board of Health added some charts to the Exhibit and the Metropolitan Insurance Company had their exhibit on hand with a trained nurse. A welfare committee was organized to consider ways and means and a welfare station was established, the Metropolitan nurse proffering her services a portion of the time at the station. There were three evening meetings which were addressed by the following speakers: Mayor Rafter, Dr. Barnard, Mayor Cordes, Father Kelly, Dr. Linsly R. Williams, Dr. Thomas, Dr. Britt, Rev. G. S. Burrows.

Digitized by Google

YEARLY REPORT OF INFANT WELFARE STATION

Number of stations, 1; time in operation, 100 days

Total number babies cared for during year	8
Total number sick babies treated	2
Total number well babies treated	6
Total number breast-fed babies	6
Total number bottle babies	2
Total number home visits by nurse to well babies	100
Total number home visits by nurse to sick babies	8
Total number mothers instructed	100
Total number quarts of milk dispensed	0
Total number babies died	0

Olean

Population — 16,018.
Births — (1913) 428; (1914) 461.
Number of infants' deaths — (1913) 46; (1914) 34.
Infant mortality rate — (1913) 107; (1914) 74.

INFANT WELFARE WORK

Infant welfare station, 1. Under the auspices of an infant welfare committee.

No report of any other infant welfare activities.

The Child Welfare Exhibit was shown in the court room of the City Building from Wednesday, July 29, to Saturday, August 1. Two evening meetings were held at which addresses were made by the following speakers: Mayor Simpson, ex-Mayor Foley, Dr. Thomas, Dr. Prest, Mrs. Finigan, Dr. McDuffee, Dr. Mahoney, Dr. Smith, Rev. Dr. Boyd, Dr. Booth.

A direct result of the Exhibit was the establishing of a welfare station.

YEARLY REPORT OF INFANT WELFARE STATION

Number of stations, 1; time in operation, since October 1 to date

Total number babies cared for during year	60
Total number sick babies treated	12
Total number well babies treated	47
Total number breast-fed babies	32
Total number bottle babies	27
Total number home visits by nurse to well babies	166
Total number home visits by nurse to sick babies	252
Total number mothers instructed (in the home and at the station)	60
Total number quarts of milk dispensed	0
Total number babies died	1

Oneida

Population — 8,647.
Births — (1913) 170; (1914) 239.
Number of infants' deaths — (1913) 15; (1914) 27.
Infant mortality rate — (1913) 88; (1914) 113.

INFANT WELFARE WORK

No report of any infant welfare activities.

The Child Welfare Exhibit was shown in Salvation Army Hall from Wednesday, June 10, to Saturday, June 13. Three evening meetings were held

Digitized by Google

at which addresses were made by the following speakers: Mayor Pfaff, Mrs. R. B. Downing, Rev. Somerton, Dr. White, Dr. Mills, Dr. Lavina Davis, Judge Beal, Miss Broadhurst, Mrs. Finigan, Dr. Duryee.

The Mothers' Club was keenly interested in welfare work and promised its support to the establishment of a welfare station. Oneida has a low death rate, particularly among children.

Oneonta

Population — 10,488.
Births — (1913) 189; (1914) 227.
Number of infants' deaths — (1913) 14; (1914) 22.
Infant mortality rate — (1913) 74; (1914) 97.

INFANT WELFARE WORK

No infant welfare station.

Visiting nurse. No report of any active welfare organizations, but considerable work of this nature is undertaken by the Women's Club and Civic League.

The Child Welfare Exhibit was shown in Municipal Hall from Wednesday, August 5, to Friday, August 7. Three evening meetings were held at which addresses were made by the following speakers: Mayor Lunn, Hon. A. L. Kellogg, Dr. Linsly Williams, Prof. A. M. Curtis, Rev. T. F. Hall, Dr. Shaw, Prof. Blodgett, Rev. Chas. McCaffrey, Mrs. I. S. Dauley, Dr. Thomas.

While Oneonta did not secure a station as result of the Exhibit, it is understood that this will go through another season.

Ossining

Population — 12,987.
Births — (1913) 235; (1914) 175.
Number of infants' deaths — (1913) 24; (1914) 16.
Infant mortality rate — (1913) 102; (1914) 91.

INFANT WELFARE WORK

No infant welfare station.

Day nurseries, 1. Christ Child Day Nursery.

District nurse.

The Child Welfare Exhibit was shown in the Y. M. C. A. lecture room from Wednesday, May 20, to Friday, May 22. A large Italian population seems to indicate the need of systematic welfare work. Three evening meetings were held at which addresses were made by the following speakers: Village President Holmes, Dr. Irvine, W. A. Ryan, Superintendent of Schools, Mr. Pearson, President Board of Education, Dr. Thomas, Prof. Winslow, Hon. J. E. Holler, Rev. George P. Perry, Dr. Wolff.

There were besides two meetings at high schools. It is believed that the enthusiasm aroused during the Exhibit will result in establishing an infant welfare center later on.

Oswego

Population — 23,865.
Births — (1913) 498; (1914) 561.
Number of infants' deaths — (1913) 74; (1914) 78.
Infant mortality rate — (1913) 149; (1914) 139.

Digitized by Google

INFANT WELFARE WORK

The Parent-Teachers' Association is said to be the only organization which takes an active interest in welfare work. No report of organized infant welfare activities.

The Child Welfare Exhibit was shown in the City Hall from Wednesday, June 10, to Saturday, June 13. The Metropolitan Insurance Company had its nurse on hand to assist and also explain their own individual exhibit which was present. Three evening meetings were held at which the following speakers made addresses: Mayor Hennessey, Dr. Thomas, Dr. Albertson, Dr. Stockwell, Dr. W. W. Sears, Dr. Hervey, Dr. White, Dr. Riggs.

The Metropolitan Insurance Company does good work among the people, and it is believed that as a result of the exhibit a welfare station will be established during 1915.

Peekskill

Population — 17,327.
Births — (1913) 319; (1914) 306.
Number of infants' deaths — (1913) 39; (1914) 43.
Infant mortality rate — (1913) 122; (1914) 141.

INFANT WELFARE WORK

Infant welfare stations, 1. Under the auspices of Associated Charities. Nurse.

Friendly Visitors (of Associated Charities). Public nurse.

The Child Welfare Exhibit was shown in Exempt Firemen's Hall from Wednesday, May 13, to Saturday, May 16. The establishment of a welfare station was accomplished prior to the visit of the Exhibit but the bringing together of influential people in the vicinity and the influence of the public meetings served to reawaken enthusiasm in continued welfare work. Much publicity was furnished. Three evening meetings were held at which addresses were made by the following speakers: Village President Nelson, Hon. J. W. Husted, Dr. Lyon, Dr. Thomas, Dr. Mason, Mr. Bucher, Dr. Dunbar, Judge Bleloch, Dr. S. Josephine Baker, Dr. Wolff, Mrs. Osterheld, Mrs. Finigan.

Mr. Smalley visited the schools and spoke to the pupils.

YEARLY REPORT OF INFANT WELFARE STATION

Number of stations, 1; time in operation, 5 months 4 days

Total number babies cared for during year	114
Total number sick babies treated	63
Total number well babies treated	51
Total number breast-fed babies	46
Total number bottle babies	38
Total number mixed fed babies	30
Total number home visits by nurse to well babies	252
Total number home visits by nurse to sick babies	285
Total number mothers instructed	201
Total number quarts of milk dispensed	0
Total number babies died	1

Poughkeepsie

Population — 29,508.
Births — (1913) 726; (1914) 801.
Number of infants' deaths — (1913) 72; (1914) 71.
Infant mortality rate — (1913) 99; (1914) 89.

Digitized by Google

INFANT WELFARE WORK

Infant welfare stations, 2. Supervised by a committee on child welfare under the direction of the board of health. Visiting nurse. Supplies certified milk, distributes leaflets, maintains clinic for sick babies (weekly or semi-weekly in summer), gives talks to expectant mothers.

No report of other infant welfare activities.

The Child Welfare Exhibit was shown in the State Armory from April 29 to May 2. Very prominent newspaper space was given and the Department of Education announced it during school hours. The Rochester Exhibit was shown, also two milk companies having private exhibits, in connection with the welfare exhibit. While there had been a welfare station prior to the visit of the State Exhibit, so much enthusiasm was aroused by its presence that the common council in its last budget appropriated twice the amount of 1913 for the extension of this work. Four public meetings were held at which addresses were made by the following speakers: Dr. H. L. K. Shaw, Prof. H. C. Mills, Dr. Duryee, Dr. S. Josephine Baker, Prof. G. A. Deel, Miss Chlor Owings, Mayor Wilbur, Dr. Wilson, Mrs. W. A. Saltford, Miss Van Wagnen, Mrs. John Dougherty.

YEARLY REPORT OF INFANT WELFARE STATIONS

Number of stations, 2; time in operation, June, 1912, to date

Total number babies cared for during year (1914)	465
Total number sick babies treated	93
Total number well babies treated	372
Total number breast-fed babies	244
Total number bottle babies	221
Total number home visits by nurse to well babies	579
Total number home visits by nurse to sick babies	399
Total number other calls, not classified	1,120
Total number mothers instructed	1,376
Total number quarts of milk dispensed	6,322
Total number babies died	9
Total enrollment in Little Mothers' Leagues	149

Rochester

Population — 241,518.
Births — (1913) 5,983; (1914) 6,601.
Number of infants' deaths — (1913) 580; (1914) 560.
Infant mortality rate — (1913) 97; (1914) 85.

INFANT WELFARE WORK

Infant welfare stations, 15. Child welfare stations at public schools Nos. 4, 5, 9, 12, 24, 26, 27, 30, also at Holy Family and St. Stanislaus parochial schools in July and August. Conducted by health bureau. Private organization station open for winter.

Day nurseries, 1. Social Settlement Day Nursery, 152 Baden street.

Infants' institutions, 4: Rochester Orphan Asylum; Infants' Summer Hospital; Jewish Orphan Asylum; Industrial School.

Infants' societies, 3: Children's Playground League; S. P. C. to Children; Children's Aid Society.

The above is not a full report of Rochester's various charitable and philanthropic agencies.

YEARLY REPORT OF INFANT WELFARE STATIONS

Number of stations, 15; time in operation, 8 weeks

Total number babies cared for during year	2,274
Total number sick babies treated	373
Total number well babies treated	1,901

Digitized by Google

Total number breast-fed babies	509
Total number bottle babies	1,765
Total number visits to sick and well babies (did not keep report separate)	5,861
Total number mothers instructed	2,008
Total number babies died	18

No milk dispensed at stations this year.
Little Mothers' Leagues organized in 8 of the public schools having school nurses.

Salamanca

Population — 6,449.
Births — (1913) 172; (1914) 186.
Number of infants' deaths — (1913) 14; (1914) 24.
Infant mortality rate — (1913) 81; (1914) 129.

INFANT WELFARE WORK

No report of any organized infant welfare activities.

The Child Welfare Exhibit was shown in the high school building from Wednesday, July 1 to Friday, July 3. Cooperation was excellent throughout the week by the people of Salamanca, several ladies being constantly in attendance to assist the nurse in charge. One reason for lack of interest in a milk station was that the city has facilities for getting milk direct from dairies but inasmuch as the mortality rate for 1913 and 1914 was high, it is believed that a child welfare station will be in time established. Three evening meetings were held at which addresses were made by the following speakers: Mayor Neff, Hon. Jas. S. Whipple, Dr. White, Mr. Geo. Adams, Dr. Thomas, Dr. Hoeffler, Rev. Father Dealy, Rev. R. D. Baldwin, Dr. Colgrove, Dr. Mahoney, Mrs. C. R. Gibson, Mrs. Finigan, Miss Carrie Denike.

Schenectady

Population — 90,503.
Births — (1913) 2,054; (1914) 2,157.
Number of infants' deaths — (1913) 228; (1914) 229.
Infant mortality rate — (1913) 111; (1914) 106.

INFANT WELFARE WORK

Infant welfare stations, 1. Under supervision of city board of health. Instructions in the care and feeding of babies. Clinic twice a week during winter.

Day nurseries, 1. Schenectady Day Nursery, 25 Lafayette street. Not under control of bureau of health.

No infant welfare societies.

The Child Welfare Exhibit was shown in the Armory from Wednesday, May 27, to Saturday, May 30. This was held in connection with the Russell Sage Foundation Exhibit and the Rochester Child Welfare Exhibit. The newspapers gave good publicity. Music was furnished the Exhibit by school orchestras. An infant welfare station was in operation prior to Exhibit. Three evening meetings were held at which addresses were made by the following speakers: Mayor Schoolcraft, Dr. Linsly R. Williams, Dr. A. R. Brubacker, J. J. Henley (Federation of Labor), Dr. H. L. K. Shaw, Rt. Rev. Mgr. Reilly, Rev. J. C. Meengs, Dr. Van der Bogert, Dr. Towne, Mrs. H. F. Towne, Mrs. H. F. Dewey, Mrs. Hartley, Mrs. Finigan, Miss Lynd, Miss Quinlan, Miss McGee.

The nurse bathed eight babies and weighed 50 one day. She also demonstrated home pasteurization, proper dressing of baby in winter and summer and showed expectant mothers how to make maternity pads.

Digitized by Google

YEARLY REPORT OF INFANT WELFARE STATION

Number of stations, 1; time in operation, June 1, 1913, to November 1, 1914

Total number babies cared for during the year	179
Total number sick babies treated	80
Total number well babies treated	85
Total number breast-fed babies	82
Total number bottle babies	39
Total number mixed feedings	44
Total number visits to homes of babies	1,836
Total number mothers instructed	200
Total number quarts of milk dispensed	7,575
Total number babies died	6
Total number babies sent to hospital	8

Seneca Falls

Population — 6,588.
Births — (1913) 160; (1914) 160.
Number of infants' deaths — (1913) 21; (1914) 10.
Infant mortality rate — (1913) 131; (1914) 63.

INFANT WELFARE WORK

Infant welfare stations, 1. Under the auspices of the Welfare Association. Visiting nurse.

No report of any other infant welfare activities.

The Child Welfare Exhibit was shown at Seneca Falls from July 22 to 25. A welfare station was maintained prior to the Exhibit and the nurse in charge was doing excellent work, it not being confined to children but to any poor person in need of her services. Very good publicity was supplied. At the public meetings addresses were made by the following speakers: L. J. Avery, Village President, Rev. Dean Edwards, Dr. Thomas, Dr. Follett, Rev. Dr. W. B. Clarke, Miss Catherine Deitz, Mrs. Milton Sanderson.

YEARLY REPORT OF INFANT WELFARE STATION

Number of stations, 1; time in operation, 2 (summer) months

Total number babies cared for during year	600
Total number sick babies treated	26
Total number well babies treated	....
Total number breast-fed babies	....
Total number bottle babies	9
Total number visits by nurse to well babies	....
Total number visits by nurse to sick babies	199
Total number of mothers instructed	8
Total number quarts of milk dispensed	180
Total number babies died	0
Total number prenatal calls	8

Not only has the welfare society paid all of its debts but has a good sum in the treasury and is at work raising funds for the extension of next summer's campaign. During December it gave its support to the selling of Red Cross seals, using the funds for maintaining a district nurse for January, February, March and April.

Syracuse

Population — 149,353.
Births — (1913) 3,084; (1914) 3,358.
Number of infants' deaths — (1913) 447; (1914) 419.
Infant mortality rate — (1913) 145; (1914) 125.

Digitized by Google

INFANT WELFARE WORK

Infant welfare stations, 4. Municipal support; also private organizations.

Day nurseries, 1.

Infants' institutions maintained in connection with the Infant Welfare Association. Associated Charities and Churches; Mothers' and Nurses' Aid; Bureau of Health; Free Dispensary; Visiting Nurses' Association; Academy of Medicine and the various hospitals. The Visiting Nurses' Association conducts in the summer a Baby Camp for sick babies, and a day nursery for children of mothers out at work during the day.

The Child Welfare Exhibit was shown in connection with the Syracuse Infant Welfare Exhibit at the Armory from June 3 to June 6. The Chamber of Commerce, women's organizations and health officials took active part and worked for its success. The Boy Scouts and Camp Fire Girls acted as ushers and guides. Excellent publicity afforded. Buttons, bearing the words, "Save the Babies" were worn during the Campaign. It has been claimed that the Exhibit at Syracuse was the best of its kind shown in the United States. Music furnished by University band and motion pictures on welfare work continuous. Addresses were made by Mayor Will, Dr. Sears and many other prominent city officials. The speakers from the Department of Health were Drs. Biggs, Williams, Shaw, Meader, Thomas, and Mrs. Finigan. Dr. S. Josephine Baker of New York made a brief address.

Three stations were maintained prior to the Exhibit, a new station being opened September 8, 1914. The welfare stations will be run at the city's expense the coming year.

YEARLY REPORT OF INFANT WELFARE STATIONS

* Number of stations, 4; time in operation (three), 10 weeks

Total number babies cared for during year (summer)	779
†Total number sick babies treated	0
Total number well babies treated	779
Total number breast-fed babies	298
Total number bottle babies	383
Total number mixed feeding	98
Total number home visits by nurses to well babies	1,883
Total number home visits by nurses to sick babies	0
Total number mothers instructed, including 97 expectant mothers.	876
Total number quarts of milk dispensed, including those who paid full price, part price, and free cases	33,806
Total number babies died	11

* One station in operation since summer stations closed and it is hoped to maintain it until spring.

† The Infant Welfare Association cares only for well babies under two years of age, nursing and expectant mothers, and the sick cases are referred to the Baby Camp, Hospital or Dispensary. Visits to the homes are considered the most effective work.

Little Mothers' Leagues were formed at each station; about 150 girls were members.

Troy

Population — 77,560.
Births — (1913) 1,299; (1914) 1,365.
Number of infants' deaths — (1913) 165; (1914) 184.
Infant mortality rate — (1913) 127; (1914) 135.

INFANT WELFARE WORK

Infant welfare stations, 1. Private organization, under the auspices of an infant welfare committee. No visiting nurse.

Day nurseries, 1. Day Home, Congress street and Seventh avenue. Cares for 40 children daily between ages of 18 months and five years.

Digitized by Google

Infants' institutions, Seton Home, 548 River street. Sisters of Charity in charge. Care for babies during working hours. Is also a home for working girls.

YEARLY REPORT OF INFANT WELFARE STATION

Number of stations, 1; open daily since July, 1912

Total number babies cared for during the year	107
*Total number sick babies treated	68
†Total number well babies treated	39
Total number breast-fed babies	20
Total number bottle babies	87
Total number mothers instructed	107
Total number quarts of milk dispensed	7,057
‡Total number babies died	10

* Of the 68 sick babies, nearly all were in good condition after they had been fed a short time.

† Of the 39 well babies, nearly every one was subnormal and not doing well when brought, although not actually ill.

‡ Of the 10 babies that died, 7 were brought to the station in a dying condition, and 3 succumbed to insanitary home conditions.

Utica

Population — 82,060.
Births — (1913) 2,350; (1914) 2,434.
Number of infants' deaths — (1913) 340; (1914) 288.
Infant mortality rate — (1913) 145; (1914) 118.

INFANT WELFARE WORK

Infant welfare stations, 3. Private organizations, under general charge of Dr. T. Wood Clarke, Medical Director of Baby Welfare Committee.

Friendly visitors, connected with Associated Charities, instruct mothers in care of children.

No report of any other infant welfare activities.

The Child Welfare Exhibit was shown in Utica from Wednesday, April 22, to Saturday, April 25. Excellent publicity. Utica's slogan for Baby Week was "Do It For The Baby." Three mothers' meetings were held in the exhibit room and an open meeting was held in the Auditorium, the address of welcome being made by Dr. Clarke in the absence of Mayor Smith. Addresses were made during the Exhibit by Dr. H. L. K. Shaw, Dr. Clarke, Dr. Frost, Dr. Thomas and Dr. Cronan of New York City. Nursemaids in training attended in a body on two evenings. Over $200 was deposited in contribution milk bottle left on table in Exhibit room.

YEARLY REPORT OF INFANT WELFARE STATIONS

Number of stations, 3. Time in operation: One station, 12 months; 1 station, 6 months; 1 station, 2 months

Total number babies cared for during the year	693
Total number sick babies treated	355
Total number well babies treated	338
Total number breast-fed babies	182
Total number bottle babies	344
Total number (mixed) breast and bottle-fed babies	167
Total number home visits by nurses	7,045
Total number mothers instructed (estimated)	680
Total number quarts of milk dispensed	28,415
Total number babies died	33
Total number Little Mothers' Leagues organized	4
Total number enrolled in L. M. L	223
Total number prenatal cases enrolled	153
Total number visits to prenatal cases	1,469

Digitized by Google

Wappingers Falls

Population — 3,095.
Births — (1913) 58; (1914) 58.
Number of infants' deaths — (1913) 8; (1914) 20.
Infant mortality rate — (1913) 138; (1914) 233.

INFANT WELFARE WORK

Infant welfare stations, 1. No nurse. This work performed by the health officer.

No infant welfare societies but lectures were given in the churches and civic bodies pertaining to child welfare. Literature freely distributed. Mothers' Club recently organized.

The Child Welfare Exhibit was shown at Wappingers Falls from April 27 to 28. Three public meetings were held and talks in parochial and public schools were given by Mrs. Finigan and Mr. Smalley. Addresses were made during the Exhibit by Drs. Thomas and Wolff, Village President E. M. Drake, Dr. Winslow, Mrs. Saltford of Poughkeepsie, Drs. Duryee and Wilson. One direct result of the Exhibit was the establishing of an infant welfare station.

YEARLY REPORT OF INFANT WELFARE STATION

Number of stations, 1; time in operation, 5 months.

*Total number babies cared for during the year	19
Total number sick babies treated	19
Total number well babies treated	17
Total number breast-fed babies	3
Total number bottle babies	16
Total number home visits by health officer to sick babies	63
Total number mothers instructed (some did not visit station)	33

No milk dispensed at station.

The Mothers' Club, recently organized, has pledged its individual support to the infant welfare station for next summer.

White Plains

Population — 19,379.
Births — (1913) 515; (1914) 521.
Number of infants' deaths — (1913) 66; (1914) 41.
Infant mortality rate — (1913) 128; (1914) 79.

INFANT WELFARE WORK

Infant welfare stations, 1. Municipal support for 1915. In charge of Dr. E. G. Ramsdell, health officer. Public health nurse, who divides her time between infant welfare and tuberculosis work.

No report of any other infant welfare activities.

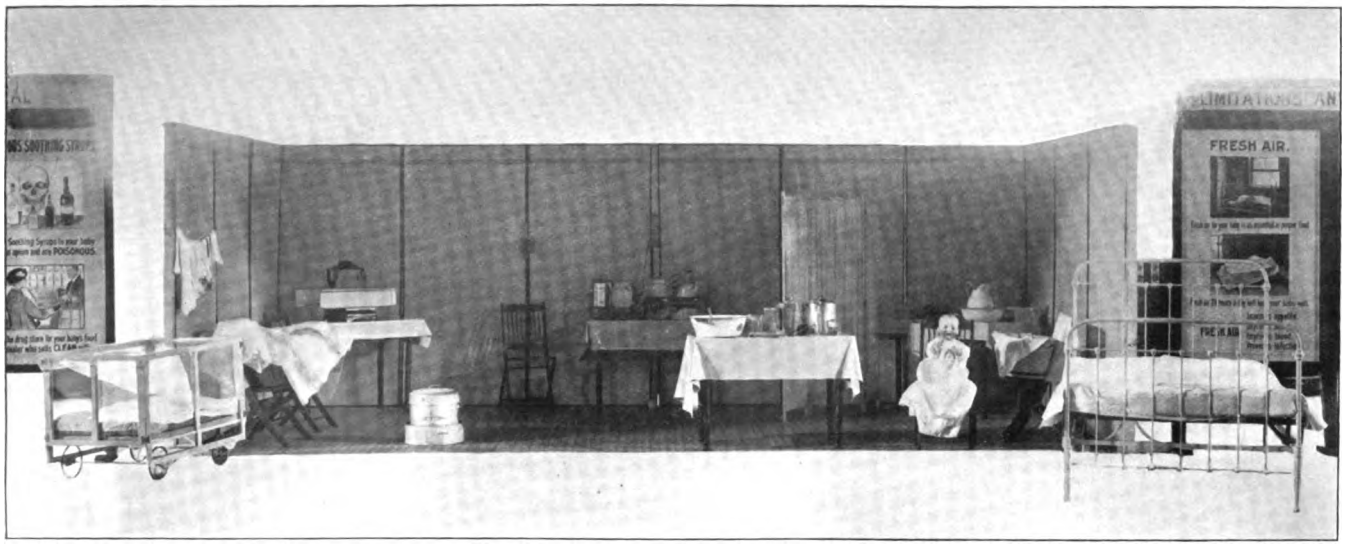
The Child Welfare Exhibit was shown at White Plains from Thursday, April 23, to Saturday, April 25. Slides, advertising the Exhibit, were shown in motion picture houses. The Camp Fire Girls and Boy Scouts, dressed in uniform, attended in a body. Three evening meetings were held and addresses were made by the following speakers: Village President J. J. Brown, Dr. Ramsdell, Dr. Thomas.

An infant welfare station, made possible through the courtesy of the Board of Education, was maintained through July and August and as a result there was a saving of nine infants' lives at a cost to the village of $31.37, plus the services of a nurse. The Public Health Nurse began the infant welfare work on June 16, 1914, and the records of child welfare work start from that date.

---

* None of the babies that received treatment at the milk station died while the milk station was in operation. No nurse was available to carry on the work, so that Dr. Paul V. Winslow, health officer, performed those duties.

Digitized by Google



MODEL INFANT WELFARE STATION

Digitized by Google

Digitized by Google

YEARLY REPORT OF INFANT WELFARE STATION

Number of stations, 1; time in operation, 59 days

Total number babies cared for during the year	144
Total number sick babies treated	11
Total number well babies treated	133
Total number breast-fed babies	76
Total number bottle babies	46
Total number mixed-fed babies	22
Total number home visits by nurse to sick and well babies	1,465
Total number mothers instructed	168
Total number quarts of milk dispensed	312
Total number babies died (in connection with infant welfare work)	1

Yonkers

Population — 93,383.
Births — (1913) 2,531; (1914) 2,517.
Number of infants' deaths — (1913) 309; (1914) 222.
Infant mortality rate — (1913) 122; (1914) 88.

INFANT WELFARE WORK

Infant welfare stations, 4. Under supervision of Dr. L. V. Waldron. Do infant welfare work and Little Mothers' work.

Day nurseries, 2. Catholic Sisterhood Day Nursery, 155 Nepperhan Ave. Day nursery in connection with milk station.

Infants' institutions. Three hospitals have infant's wards (St. Joseph, St. John, and Homeopathic). Prospect House Association work among young children.

District nurses.

The Child Welfare Exhibit was shown at Prospect Hall from Wednesday, April 29, to Saturday, May 2. Very good publicity was furnished. School children attended in large numbers and had to be let in by relays. On one occasion Dr. Wolff lectured to 500 school children who were present. Two evening meetings were held at which addresses were made by the following speakers: Mayor Lennon, Dr. Waldron, Commissioner of Safety Flinn, Dr. Coons, Dr. Thomas, Dr. S. Josephine Baker, Dr. Wolff.

Mayor Lennon stated that "the establishment of four milk stations has been fruitful in securing for Yonkers the proud position of being at the head of the second-class cities in the State in infant mortality."

YEARLY REPORT OF INFANT WELFARE STATIONS

Number of stations, 4; time in operation: Two stations, June 1, 1912, to date; one station, June 1, 1913, to date; one station, June 1, 1914, to date

All four stations kept open all the year

Total number babies cared for during the year	1,826
Total number sick babies treated (district)	729
Total number sick babies treated (station)	343
Total number well babies treated (station)	754
Total number breast-fed babies (well and sick)	775
Total number bottle-fed babies (well and sick)	293
Total number birth calls	1,843
Total number home visits to well babies	4,984
Total number home visits, sick, improved, cooperation	7,482
Total number mothers instructed	11,060
Total number quarts of milk dispensed	42,205
Total number home modifications taught	562
Total number children under nurses' care	42

Eight Little Mothers' Leagues, 969 members signed pledges and received certificates. In public schools under instructions of Milk Committee.

Digitized by Google

APPENDIX III

The exhibits at county fairs embraced two distinct subjects; five of the exhibits were devoted to child welfare and three to rural sanitation. In connection with both of these exhibits, literature pertaining to the care of the baby and to rural sanitation were distributed. The local papers were supplied with copy relating to the exhibits for several weeks before the opening of the fair. These articles called attention to the Child Welfare Exhibit and in a general way to the summer care and feeding of infants. The educational feature was made as prominent as possible. The secretaries of several of these fairs volunteered the remark that the literature distributed during the Exhibit was not thrown upon the ground but was taken home and read.

The Child Welfare Exhibit was shown at the following places: Binghamton, Cortland, Canandaigua, Chatham, Chautauqua, Cobleskill, Cooperstown, Delhi, Fonda, Fulton, Gouverneur, Hamburg, Hemlock, Lowville, Malone, Margaretville, Nassau, Newark Valley, Norwich, Ogdensburg, Olean, Orangeburg, Plattsburg, Rochester, Rome, Sandy Creek, Saratoga Springs, Schenevus, Schoharie, Syracuse, Troy, Trumansburg, Walden, Warrensburg, Wellsville, Whitney Point.

Report of infant welfare activities at county fairs

Binghampton, Industrial Exposition, September 29 to October 2, 1914.—The Exhibit was installed in the Women's Building. The demonstrations along infant welfare lines were made with live babies and attracted such large crowds that Dr. Burr, health officer, had to shout to the people to keep them moving. It is estimated that 40,000 people were present throughout.

Canandaigua, Ontario County Agricultural Society, September 17–19, 1914.—The Exhibit received a great deal of attention although the panels on "Don'ts for the Baby" and "Patent Foods and Soothing Syrups" were much criticized, as many people seemed to think that condensed milk and not cow's milk was most suitable for a baby and that soothing syrup was a necessity. Two meetings were held for mothers, both being largely attended. Estimated attendance, 14,000.

Chatham, Columbia County Agricultural Society, September 7–11, 1914.—The Exhibit reached many people from surrounding communities and much individual instruction in the care of the baby was given. A large amount of health literature was distributed. One man, the father of a thirteen days old baby, rode several miles on a bicycle to consult with the nurse in charge as to the proper food to be given his child. Estimated attendance, 14,000.

Chautauqua, Chautauqua Assembly, August 24–29, 1914.—The Exhibit was very well patronized by people from different States and everyone seemed to think it splendid and expressed a wish to have one in their State. Afternoon lectures were given by the sanitary supervisor and the health officer.

Cobleskill, Cobleskill Agricultural Society, September 21–25, 1914.—Estimated attendance, 20,000.

Cooperstown, Otsego County Agricultural Society, September 22–24, 1914.—Estimated attendance, 5,500.

Cortland, Cortland County Agricultural Society, August 18–21, 1914.—During the Exhibit a Baby Contest was held and nearly 100 babies were examined. The nurse in charge gave demonstrations on the care of the baby to large groups of girls from ten to sixteen.

Delhi, Delaware County Agricultural Society, September 8–10, 1914.—The Exhibit was installed in the Women's Building. Dr. Mendel of Yale University addressed the visitors at the fair on two occasions regarding the work of the State Department of Health. Estimated attendance, 6,000.

Fonda, Montgomery County Agricultural Society, September 29 to October 3, 1914.—The Exhibit attracted unusual attention, and the county fair scenes

Digitized by Google

which are shown in the Department's film on Child Welfare for the Panama-Pacific Exposition were photographed there. In commenting on the results of the Exhibit, Secretary Martin said: "The management, as well as the visiting public, have nothing but words in the highest praise for the exhibit made by the State Department of Health, believing that much good must result from this source and that all the encouragement possible should be extended to the Department in order that efforts in this direction may be continued in future years."

Fulton, Oswego County Agricultural Society, August 11–14, 1914.—Estimated attendance, 20,000.

Gouverneur, Gouverneur Agricultural Society, August 18–21, 1914.—At first it was thought impossible to include this fair in the itinerary, but the directors of the fair were so emphatic in their desire for it and so willing to do whatever might be necessary to obtain it that the schedule was changed in order to meet their request. Estimated attendance, 18,000.

Hamburg, Erie County Agricultural Society, September 22–25, 1914.—The Exhibit was a pronounced success in spite of the fact that it rained steadily three days out of the four. The nurse in charge gave an informal talk to mothers, the youngest being 18 years of age with a six months old baby; the oldest was seventy-two, a great-grandmother to four, who said she was "willing to learn." Estimated attendance, 15,000.

Hemlock, Hemlock Lake Union Agricultural Society, October 1–3, 1914.

Lowville, Lewis County Agricultural Society, August 25–28, 1914.—The press gave the subject of the Exhibit considerable space and the Department literature was in demand. Estimated attendance, 18,000.

Malone, Franklin County Agricultural Society, September 15–18, 1914.—The Welfare Committee assisted the nurse in charge to distribute health literature each day. This Committee was so anxious to secure the Exhibit for the fair that they sent their representative to Albany to negotiate for it.

Margaretville, Catskill Mountain Agricultural Society, August 18–21, 1914.

Nassau Agricultural and Liberal Arts Society of Rensselaer County, September 15–18, 1914.—The Russell Sage Foundation Exhibit was shown at this fair and the estimated attendance was 10,000.

Norwich, Chenango County Agricultural Society, August 25–28, 1914.—In order to send a Department Child Welfare Exhibit to Chautauqua, it was necessary to send the Russell Sage Foundation Exhibit to Norwich, and as the Norwich Sun remarked, "While the Exhibit is not as complete as was first planned, the telling effect of flies, patent medicines and foods, as well as soothing syrups and other things derogative to the good health of babies, is perhaps more fully emphasized." Estimated attendance, 16,000.

Ogdensburg, Oswegatchie Agricultural Society, August 31 to September 4, 1914.—This Society was particularly anxious to have and exhibit on child welfare at the fair and the nurse in charge reported that the exhibit was greatly appreciated by the managers and the public generally. Attendance estimated at 25,000.

Olean, Olean Agricultural and Industrial Association, September 7–11, 1914.—The nurse in charge had the Exhibit booth fitted up to resemble a women's rest-room and in this way got in touch with most of the women. A great many Camp Fire Girls received instruction, an informal meeting was held for mothers, and the nurse gave directions as to bathing a baby and the general care necessary.

Orangeburg, Rockland County Fair, September 7–11, 1914.—The Exhibit, Russell Sage Foundation, was given excellent space in one of the buildings. A Better Baby Contest was held, and about 80 were entered. Much enthusiasm was shown in regard to infant welfare.

Plattsburg, Clinton County Agricultural Society, September 7–11, 1914.—The Exhibit was not given good space, was very badly lighted so that the material did not show to advantage. The members of the welfare committee assisted in distributing literature. Attendance estimated at 10,000.

Newark Valley, Northern Tioga Agricultural Society, August 4–6, 1914.—The Exhibit was installed in a tent. Estimated attendance, 10,000.

Digitized by Google

Rochester, Rochester Industrial Exposition, September 14–19, 1914.—The chief feature of the Child Welfare Exhibit was the better baby contest which took place on Automobile Day during the last session of the fair. Five public health nurses were in constant attendance. The physicians who volunteered their services to make the necessary tests were of the Rochester Public Health Association staff. Every contestant was accompanied by its mother in the examination room. Out of 375 initial entries of infants under two years of age, the preliminary examination reduced the field to 86 and but one of the 86 mothers failed to be on hand at the final judging hour to receive their baby's score. The Rochester Public Health Association agreed to mail the record of every baby to its mother upon receipt of a 2-cent stamp. The babies' parade reached from the south gate to the exterior walls of the central industrial building. There was an address to babies by Mayor Edgerton in Assembly Hall after which he announced the names of the winners and handed out the envelopes containing the ribbons and prize money. Thus was an annual feature of the Rochester Industrial Exposition inaugurated, for the managers were so thoroughly pleased with the baby show that in discussing a program for the 1915 fair, Secretary E. F. Edwards stated that he wanted to see a baby parade next year that would rival Atlantic City's famous affair. Estimated attendance, 200,000.

Rome, Oneida County Agricultural Society, September 22–24, 1914.—The Child Welfare Exhibit was installed in a very desirable location and received a great deal of attention. In commenting on its value, Secretary Ott said that it created such a favorable impression that he should like to place application now for the 1915 fair, should the Department pursue the same course in educating the public. Estimated attendance, 12,000.

Sandy Creek. S. C., R., O. and B. Agricultural Society, August 18–21, 1914.—Estimated attendance, 15,000. Because of rain the attendance was far below the average and the fair was therefore not considered a success.

Saratoga Springs, Fourteenth Annual Conference of the Sanitary Supervisors of New York State, September 15–17, 1914.—The Child Welfare Exhibit was shown in conjunction with the rural sanitation exhibit on the court veranda of the United States hotel and attracted favorable comment from all who saw it. Among the speakers were Governor Glynn, Dr. Biggs, Miss Lathrop and Dr. Shaw. The public health nurse in charge of the Exhibit was kept busy answering inquiries of many interested mothers. One Southern woman contended most earnestly that condensed milk instead of cow's milk was the proper food since it produced such lovely, fat babies, but through statistics furnished by the nurse which gave the high rate of infant mortality in the South and the high rate of infant paralysis there, she was persuaded that the condensed-milk-fed babies of the South were decidedly not the possessors of such constitutions as the babies of the North.

Schenevus, Schenevus Valley Agricultural Society, August 11–13, 1914.—The Exhibit's model infant welfare station attracted much attention and seemed to be something new not only to the rural population but to many city visitors. A baby show was held and the welfare committee requested that a Better Baby Contest be made a feature of the 1915 fair. Estimated attendance, 3,000.

Schoharie, Schoharie County Agricultural Society, August 24–27, 1914.—The Exhibit was installed on the second floor of Exhibition Hall. As the welfare work was so entirely new to many of the people it aroused a great deal of curiosity. Estimated attendance, 7,000.

Syracuse, New York State Fair, August 31 to September 5, 1914.—The Child Welfare Exhibit was shown in conjunction with the rural sanitation exhibit. The health committee of the New York State Grange had an exhibit and worked in cooperation with the State Department. Three public health nurses were in constant attendance and from 50 to 150 babies were listed daily at the Model Nursery where demonstrations with live babies were given relating to proper bathing and care of children. Public Health Day, which was the first event of its kind in the history of the State Fair, was under the auspices of the Syracuse Health Department and the State Department of Health. Buttons were distributed all day at the gates, bearing the motto of the Department, "Public Health Is Purchasable." Motion pictures were enlisted for the

Digitized by Google

work. In all parts of the grounds mass meetings were held where prominent speakers addressed large crowds on the subject of health. Friday was Children's Day and all children were admitted free. They took a keen interest in the demonstrations relating to child welfare and the Boy Scouts, as well as girls of various organizations, rendered capable assistance in distributing health literature. Estimated attendance, 550,000.

Troy, Rensselaer County Agricultural Society, August 18–21, 1914.—The Exhibit was installed in a building by itself on the Midway, part of the room being screened off as a rest-room for mothers where the babies were bathed, etc. The fair was open in the evening as well as daytime, thus reaching all classes of working people with whom it would otherwise have been impossible to get in touch with. Estimated attendance, 10,000.

Trumansburg, Union Agricultural Society, Ulysses, Covert, Hector, August 25–28, 1914.—Estimated attendance, 12,000. The nurse conducted a meeting for mothers and prenatal mothers, also a meeting of Camp Fire Girls which aroused so much enthusiasm that the girls will take up organized infant welfare work.

Walden, Wallkill Valley Farmers' Association, August 5 and 6, 1914.—The Exhibit was installed in a tent. Estimated attendance, 3,000.

Warrensburg, Warren County Fair, September 1–4, 1914.—The Exhibit was installed in a most desirable location on the Midway, part of the space being used as a rest-room for mothers and babies. Here the children could be fed and bathed and put to bed if necessary. Estimated attendance, 7,000.

Wellsville, Wellsville Fair Association, September 1–4, 1914.—The Exhibit was installed in a large tent. Estimated attendance, 7,000.

Country Life Permanent Exposition, Grand Central Terminal.—The Exhibit was shown in a booth at the Exposition, where the various charts and models demonstrated the right kind of house sanitation; how to keep the ordinary dwelling well ventilated; how to protect the water supply; the best method of protecting milk; the danger from flies and mosquitoes; the proper disposal of body wastes; protection from smallpox by vaccination; the proper care of tuberculosis patients, and the danger from the so-called children's diseases. The Exhibit was sent to New York through a desire on the part of the Exposition management to cooperate with the State Department of Health in its campaign to reduce the death rate.

Digitized by Google

APPENDIX IV

LETTERS FROM MAYORS OF CITIES AND VILLAGE PRESIDENTS VISITED BY THE INFANT WELFARE EXHIBIT

From Mayor Frank H. Shall, Little Falls, N. Y.:

"I am glad to say that I am convinced that the Exhibit was a positive and permanent good to us. The welfare station, which was founded at the time, was very greatly needed and accomplished a great deal both in the improvement of milk supply and living conditions."

From Mr. George H. Parker, President of the Village of Bath, N. Y.:

"Since the receipt of your letter I have consulted with two of our most prominent physicians and they were both very enthusiastic. Both claim that great good resulted, especially along the lines of the mothers' treatment of their infants. We are blessed with good air, good milk, and few families of foreign descent, therefore we should be healthy."

From Mr. Fred D. Gray, President of the Village of Herkimer, N. Y.:

"It is an unquestionable fact that through the establishing of a welfare station in this village, many mothers are better educated in the care of infants, and this naturally will extend to others who have not come in contact with the work. I believe it is an undertaking that should be continued in future years."

From Mayor C. W. Brister, Auburn, N. Y.:

"We are pleased to note the reduction of the infant mortality rate this summer as compared with last. Of course, we are not sure that this desired condition is due entirely to the Welfare Exhibit. Neither are we sure it is not. In any event, the death rate is lower and we are led to believe that this Exhibit and subsequent work of the Health Department had something to do with reducing it."

From Mayor James S. Calkins, Cohoes, N. Y.:

"I have personally looked into the work of the Child Welfare Exhibit and find all connected with this work very enthusiastic, and you may rest assured that we will gladly cooperate with any suggestions.

From Mayor Thomas Nelson, Peekskill, N. Y.:

"I am pleased to inform you that the Exhibit was very favorably commented upon by all who had the good fortune to be present, and I am quite certain it has done a world of good in this locality. The welfare station is a very beneficial thing in the education of mothers in the care of their children and I have heard much favorable comment in regard to this work."

From Mayor J. I. Sullivan, Dunkirk, N. Y.:

"In reply to your recent communication regarding effect of Infant Welfare Exhibit held in July, I take pleasure in informing you that from personal observation and information given me by various physicians of our city, and by our district nurse, I am convinced that the Exhibit and campaign have resulted in a permanent amount of good along the lines desired. The sessions of the Exhibit in Dunkirk enjoyed a gratifying attendance, which we believe is the best criterion of its success. The District Nurse informs me that the lessons taught at the Exhibit were well learned and are resulting in inestimable permanent good."

Digitized by Google

From Mayor James T. Lennon, Yonkers, N. Y.:

"The child welfare work in this city has been very satisfactory, indeed. The establishment of the four milk stations, with the accompanying instructions to mothers in the care of infants and the medical treatment and nursing of sick infants, has all been fruitful in securing for us the proud position of being at the head of the second class cities in the State in infant mortality. Certainly the campaign has resulted in good, which I am sure will be permanent."

Mayor Will of Syracuse forwarded an opinion through Dr. F. W. Sears:

"Our Mayor handed me your letter to answer as he was not in possession of sufficient facts to give an intelligent reply. I would say for him that we believe the Welfare Exhibit and welfare work during the present year has resulted in a very great amount of good. It is our purpose the coming year to establish welfare stations at the city's expense, which shall run the entire year."

Mayor Samuel A. Carlson, Jamestown, N. Y., writes:

"The Exhibit aroused much interest in the matter of Child Welfare, and since then there has been established a child welfare station, and the movement for a better and safer milk supply received strong impetus from the demonstrations made by the State. I am sure the work of the Department in this direction is producing the desired results toward better living conditions among our people."

Mayor Canfield of the City Kingston, writes:

"I am sure, considering the great number who attend and received the benefit of the Exhibit, that it must have had a beneficial effect in our locality. In fact, our death rate for the last several months has been very much less than for the corresponding months last year and the principal decrease has been amongst the children. I believe that the Exhibit and similar work and similar agitations in behalf of sanitary matters have been the main cause of the decrease in deaths in our City."

From Mayor Edwin W. Fiske, Mt. Vernon, N. Y.:

"I am happy to say that we believe a great deal of permanent good was accomplished through the education of the mothers at the station and our investigation of the sanitary conditions of the homes from which these babies were brought for advice as to feeding, clothing, bathing, etc. We believe that in the next year we shall be able to accomplish a great deal more by more frequent visits to the homes, especially of the foreign population, and that it is this class that really needs our advice in the care of the little babies to prevent the summer complaints that give us such a high mortality in this State."

From Mayor John B. Corwin, Newburgh, N. Y.:

"I am not personally in possession of sufficient facts to enable me to reply to your inquiry, but am sending a copy of report made by the local health officer at my request, which seems to conclusively demonstrate the value of the work in this city, and I believe it will become a permanent institution here."

(Quotations from Dr. Thomas J. Burke's report):

"The station was opened at 55 Broadway, July 1st. During the two months the station was operated, 146 enrollments, among which there were but two deaths, which speaks for itself what a welfare station means to a community. We found it next to impossible to convene the mothers so as to allow the volunteer physicians to lecture and instruct them at the station. I allowed the nurse much latitude, she consulted with me, and we thus succeeded in reaching this great number either at the station or at their homes. The cost of the station was $300 for the 2 months, leaving a balance for next year. The death rate has been reduced considerably, and I believe the milk station was the factor."

Digitized by Google

The rate was as follows:

1914. July and August 8.1.
1913. July and August 13.9.

From Mayor Daniel W. Wilbur, Poughkeepsie, N. Y.:

"Your Infant Welfare Exhibit was very much appreciated by our people, though I am not sure this had any marked effect on the question of infant welfare stations for the reason that we already had a station established some two years and a half previous. The question of the education of mothers is being taken up systematically by our welfare nurse and is becoming productive of much good. I am very much interested in this work and am pleased to testify to its value in this community. I believe that the work should be taken up by every city in the State and if I had the time to do so, I would be willing to go about the country preaching its merits."

Mayor J. T. Schoolcraft of Schenectady writes:

"Your Exhibit has proved to be of special value to this community. Our records show that during June, July and August of this year there were more births and less deaths among infants than during the corresponding months of 1913. I feel satisfied that the campaign has resulted in permanent good and that our mortality records will prove the increasing value of such work year by year. An infant welfare station has been established and has accomplished splendid results."

From Mr. John J. Brown, President of the Village of White Plains, N. Y.:

"I cannot speak too strongly of the great value of the work done in our village by the welfare station the short time it was in operation and the trivial cost. Dr. Ramsdell published in our local papers an article showing the results, and I quote some of his findings:

"The first public health nurse in White Plains commenced work in October, 1913, about a year ago. During the past summer she concentrated her efforts toward the reduction of infant mortality and was aided in this by an infant welfare station which was financed by the board of trustees and cost $49.02; $17.65 went for equipment, leaving a balance of $31.37 expended. Forty-five babies were enrolled. In the four summer months of 1912, 26 babies under one year of age died in White Plains. In 1913, during the same period, 26 babies under one year of age died, but following the advent of a public health nurse and the infant welfare campaign in 1914, only 17 babies under one year of age died in this village, so that 9 babies were saved this past summer at an actual cost of $31.37, plus services of a nurse."

LETTERS FROM THE SECRETARIES OF THE COUNTY FAIRS

From Mr. J. A. Ott, Secretary of the Oneida County Agricultural Society:

"I have heard nothing but favorable comments upon the exhibits from your Department at our recent Fair held in September. A great many of the town's, as well as the rural people, have spoken to me in reference to our having a permanent Welfare Station in Rome. The nurse in charge of your Exhibit left a vary favorable impression, so much so that the Society would like to place our application for the 1915 Fair, should you pursue the same course in educating the public."

Mr. C. G. Simmons, Secretary of the Vernon Fair, writes:

"I wish to say that your Exhibit took well here. I am supposed to know just what is going on everywhere, at the Fair, and come as near doing it as possible, and I consider the Exhibit was very valuable to the people and I think I know just about the amount of interest and attention that was aroused. * * * I never passed the Exhibit when there were less than seven or eight looking things over, and many times it was quite full all day long each day."

Digitized by Google

Mr. Warren B. Conkling, Secretary of the Monroe County Agricultural Society, states:

"I am pleased to state from my personal observation that your Exhibit at our County Fair was appreciated by the public and I believe that there were many who picked up suggestions which would be of benefit to them. I have heard a number speak of it who never before took much interest in such exhibits, and surely a few interested will spread the work among many."

Mr. Wm. E. Frank, Secretary of the Orleans County Agricultural Society, writes:

"The Exhibit was one of the best features of the Fair and was greatly appreciated by the people in attendance. I feel that great good was accomplished along educational lines and I hope the Department will continue the exhibits."

Dr. F. A. Watters, in behalf of the Niagara County Fair, writes:

"The Mothers' Club of Lockport conducted a Better Babies Contest at the Niagara County Fair with much success; 116 babies entered with over 100 appearing for examination. The Department had a splendid health exhibit of charts and models in which the crowds showed much interest. Many hundreds of baby welfare leaflets were given out and it was noticed that very few of these leaflets were thrown on the ground."

Mr. E. F. Edwards, Secretary of the Rochester Industrial Exposition, writes:

"I want to say unhesitatingly, that the Exhibit was unquestionably of very great value along educational lines. The State is deserving of credit for having taken steps in educating the public along lines that will reduce not only the appalling infant mortality but in teaching it how best to meet the problems of health and life. I consider it was of incalculable benefit to the nearly 200,000 people who visited our Exposition. The county fairs offer a splendid opportunity for getting in touch with the public and I should like to make application now for another exhibit next year."

Mr. J. B. Martin, Secretary of the Montgomery County Agricultural Society, states:

"The management, as well as the visiting public, has nothing but words 'in highest praise' for the Exhibit, believing that much good must result from this source and that all the encouragement possible should be extended to the Department, that efforts in this direction might be continued in future years."

Mr. Fred B. Parker, Secretary of the Genesee County Agricultural Society, states thus:

"I wish to give my praise of your Child Welfare Exhibit at our fair last fall. I am very proud that we were favored with an Exhibit that was of such great interest and educational value to everyone that visited it during the week. I sincerely hope that we may be favored again this coming year with an Exhibit of like nature."

Mr. Guy O. Hinman, Secretary of the Allegany County Agricultural Society, writes:

"It is my opinion that your Exhibit was of great educational value, particularly in two ways:

1. I noted the parents of families studying the exhibits showing proper and improper sanitary arrangement of farm buildings especially.

2. I noted others, and also many children, studying those views pertaining to the common house fly, and from their comments came to the conclusion that they were taking home some of the matter they were reading.

Digitized by Google

The Exhibit is too good a thing to drop, and the Fairs are the very best place in the world to reach a mass of the class of people you wish to get at."

Mr. Fred J. Hayes, Secretary of the Warren County Fair, writes:

"I was much impressed by the comments I heard made by persons who visited your Exhibit during our Fair, and I am fully convinced that much and lasting good was done in this community and the surrounding country side by it. We will be pleased to furnish you space for a similar Exhibit at our next Fair."

Mr. Fred J. Schaeffer, Secretary of the Schoharie County Agricultural Society, writes:

"My opinion is that the Exhibit is one that should awaken universal interest, as I think a great many babies could be saved from an after life of misery and suffering. I know of no better way to place the work before the rural population, than by exhibiting at the county fairs, and if you desire to place one at our Fair next year I can assure you of the hearty co-operation of this Society."

Mr. C. E. Harris, Secretary of the Chenango County Agricultural Society, writes:

"The theory of these Exhibits appeals strongly to me, and I believe they should work immense good."

Mr. B. M. Wager, Secretary of the Tioga County Agricultural Society, states:

"I think your Exhibit, sent to our Fair last fall, one of the best for educating the people in regard to child welfare. The tent where it was shown was so crowded that it was almost impossible to get in at times. If I am connected with the Fair next year I want all the help I can get from you to have a good baby show connected with the Exhibit."

Mr. J. P. Friery, Secretary of the Schenevus Valley Agricultural Society, writes:

"Your Child Welfare Exhibit at our last annual Fair proved to be an interesting and educational feature of the Fair and in my opinion this work is well worth the effort and expense and should be continued."

Mr. Millard Frink, Secretary of the Albany County Agricultural Society and Exposition, writes:

"I am glad to advise you that your Exhibit at our Fair was a fine educational feature. I trust you will arrange to have an exhibit for us next year, for which we will be very glad to give you all the free space desired and assist you in any other way possible."

Mr. F. P. Caird, Secretary of the Rensselaer County Agricultural and Horticultural Society, writes:

"I consider your Health Exhibit given at our last Fair very interesting and of great educational value. I heard nothing but favorable comment regarding it, and only regret that a full week of rain at the time kept many thousands from seeing the Exhibit."

Dr. M. A. Stivers, of Middletown, writes:

"Your letter to Mr. D. A. Morrison, Secretary of the Orange County Agricultural Society, was sent to me, as one of the directors, to answer. Mr. Morrison has died since our last Fair.

"From personal observation I know that your Exhibit was inspected with interest by a very great number of visitors at the Fair, and as a physician I can see where benefit will come from having such an Exhibit in the community. I would suggest that in carrying on this work at fairs in the future, you get as much co-operation from local people as

Digitized by Google

possible — perhaps have a local committee to help, so that one or two could be near the Exhibit when it is visited by the greatest number of sightseers."

Mr. Jas. E. Jennings, Secretary of the Wyoming County Fair, writes:

"Permit me to express my appreciation for the Exhibit shown at our Fair. The interest taken in it was general. Your plan of reaching the rural people by Exhibits at county fairs is very effective. I assure you the people in this community wish you continued success along these lines."

Mr. H. Putnam Allen, Secretary of the Oswego County Agricultural Society, writes:

"Your Exhibit gave great satisfaction to the management and officers at the Fair, and I am told that the public at large took great interest in it, in fact, I know that they did so. I am sure the Exhibit will result in permanent benefit and be the means of prevention of much sickness."

Mr. W. E. Parkhurst, Secretary of the Clinton County Agricultural Society, states, in conclusion:

"I have heard a great many expressions of approval from different sections of the county since the Health Exhibit visited our Fair. There was a genuine feeling of approval manifested by everyone for the work you have undertaken, and I think it should be made a part of the yearly work of your Department, not only at our Fair, but at every Fair. I shall be very glad to assist you as far as I am able, whether I am secretary or not."

Specimens from the thousands of letters written by mothers upon receipt of the booklet

YOUR BABY — HOW TO KEEP IT WELL

639 E. Ferry St., Buffalo, N. Y., October 24, 1914

New York State Department of Health:

DEAR SIRS.— I feel that I owe you at least a letter of thanks for the valuable book on "How to Keep Your Baby Well," which I received a short time ago. Being unable to nurse my baby, the doctor advised malted milk, which did not agree with her. I also used other foods which did absolutely no good, and instead of gaining, she constantly failed. I then received your book, and after using barley water and milk, and following all instructions very carefully, I notice in this very short time a wonderful improvement, due to advice given in book mentioned. Any other information you can give me on the care and health of my baby, will be greatly appreciated.

Very truly yours,
MRS. W. F. H.

July 17, 1914

HERMANN M. BIGGS, M. D.:

I received your letter and circulars some days ago in regard to my baby. He was born May 1st but is not a healthy baby. He has just had a very severe attack of stomach trouble and his bowels were terrible, but through my physician and good care he is better. I was much pleased to get the circulars. I will most surely follow them and any others you may be kind enough to send me.

Sincerely yours,
MRS. CHAS. M.
General Delivery,
Hoosick Falls, N. Y.

Digitized by Google

YONKERS, N. Y., *December* 5, 1914

Dr. H. L. K. SHAW, *Director, Division of Child Hygiene, Albany, N. Y.:*

DEAR SIR.— Recently one of my young mothers received a pamphlet from you, the title of which, I believe, was "Your Baby — How to Keep It Well." I would like to ask if each mother is to get one? I was much pleased with the pamphlet and would like one myself.

Yours sincerely,

DR. R. B. S.

P. S. It seems to me that if the doctors, nurses, and midwives were included in the distribution of the pamphlet it would be of value. R. B. S.

LOCUST VALLEY, N. Y., *December* 21, 1914

New York State Department of Health, Albany, N. Y.:

GENTLEMEN.—A few days ago my wife received from you the "Baby Book." We cannot begin to express our gratitude to you for this little book. It is a God-send to any mother with a little baby. It is being the means of saving thousands of lives and untold hours of care and worry.

I have two sisters. One has a baby several months old, and the other will be a mother this coming spring. If it is not asking too much, I would like to have two more baby books — one for each of these women.

Thanking you again, I remain,

Yours very truly,

J. H. M.

Digitized by Google

DIVISION OF PUBLICITY AND EDUCATION

Digitized by Google

Digitized by Google

DIVISION OF PUBLICITY AND EDUCATION

ALBANY, *January* 18, 1915.

Hon. HERMANN M. BIGGS, M. D., *Commissioner of Health, Albany, N. Y.:*

DEAR SIR.— I have the honor to submit the following report on the work of the Division of Publicity and Education for the year 1914.

The Scope of the Division

Education is one of the most vital functions of the Health Department,— and particularly of the State Health Department,— of the present day. In the first place the science of public health is developing very rapidly and there is urgent need for machinery by which the local health officers and the physicians and the various law workers in the growing field of public health may be kept in touch with current progress in the sciences of hygiene, sanitation and preventive medicine, and in the art of their practical application to the public health.

The campaign against preventable disease must, however, enlist the public as well as the official worker if it is to reach its greatest possibilities. Education is the keynote of the modern campaign for public health. Tuberculosis and infant mortality are preeminent among all the causes of preventable diseases and death as the greatest scourges, from the abatement of which the largest results for humanity are to be attained. In each case the fight must be won, not merely by the construction of public works, but by the conduct of the individual life. The same thing is true with regard to the spread of the acute contagia, the burden of venereal disease, the obscure ill effects of defective eyes and ears and teeth, and a dozen other problems which in greater or lesser degree concern the public health. In every one of these cases the results we are striving for can be reached only by spreading a clear knowledge of the ways in which disease spreads, and the ways in which it is prevented, among the mothers who bring up babies and the men who pay rent in the tenement and work in the stores and factories.

The function of the Division of Publicity and Education is

Digitized by Google

therefore a two-fold one, to aid in disseminating the latest scientific knowledge in regard to public health problems among the professional health workers, and to organize a comprehensive campaign of public health education among the people of the entire State.

In both of these phases the work of the Division is pre-eminently an educational one. The term "publicity" is tautological if not actually misleading, and it would greatly further a proper comprehension of the aims of the Division if it name were changed to "Division of Public Health Education."

Education of Health Officers, Physicians and Other Health Workers

There are three ways in which the State Department of Health may assist the health officers, physicians and other health workers of the State to keep in touch with the best current practice in sanitary science,— by an annual conference of health officers, by the distribution of literature dealing with the prevention of disease, and by lectures and courses of instruction conducted by the Department alone or in cooperation with educational institutions of the State. The first two of these methods have been actively developed in New York State. The third remains for the future except for the courses in laboratory technique offered by the Division of Laboratories and Research.

The local health officers throughout the State are required by law to attend the annual conferences of sanitary officers called by the State Department of Health, as well as the local conferences called by the Sanitary Supervisors. The Annual Conference of 1914 (the fourteenth which has been held) was called at Saratoga Springs on Tuesday, Wednesday and Thursday, September 15, 16 and 17. The program for this meeting was arranged by the Division of Publicity and Education, and the papers presented are printed under "Proceedings of Conference of Sanitary Officers," pages 483 to 817. The Department was fortunate in being able to secure the attendance at this meeting of such distinguished guests as His Excellency, Governor Martin H. Glynn, Mr. George Foster Peabody, Dr. Albert W. Ferris, Director of the New York State Reservation, Saratoga Springs, Assistant Commissioner Finegan of the State Department of Education, Miss Julia C.

Digitized by Google

Lathrop, Chief of the Children's Bureau, Washington, D. C., Prof. A. C. Abbott of the University of Pennsylvania, Prof. G. C. Whipple of Harvard University and the Massachusetts Institute of Technology, Dr. John W. Trask, of the United States Public Health Service, President John H. Finley of the University of the State of New York, Dr. W. A. Evans, former Commissioner of Health of Chicago, Dr. S. Adolphus Knopf of New York City, Dr. W. H. Park, Director of the Laboratories of the New York City Department of Health, Mr. Ernest Kelly, of the United States Department of Agriculture, Dr. W. H. Guilfoy, Registrar of Records of New York City and Dr. W. R. Batt, State Registrar of Pennsylvania, besides the speakers from the Department itself and those representing the local health officers of the State.

The New York State Sanitary Officers' Association met in conjunction with the State Sanitary Conference. The total registration of health officers, registrars and other officials for the Conference was 730.

In addition to the papers presented at the Sanitary Conference it has been the constant aim of the Division of Publicity and Education to use the Monthly Bulletin of the Department and its various special publications as media for the dissemination among the health workers of the State of the information which they need in the fulfilment of their duties. Both the Monthly Bulletin and the circulars issued by the Division will be discussed more fully in connection with the question of the education of the wider public which they also serve. Mention may here be made however of the following articles in the Monthly Bulletin which have been designed more particularly for the professional sanitarian.

February. Radium and Cancer, G. N. Calkins, Ph. D.

March. Fly Control, E. P. Felt.

April. The Infectiousness of Tuberculosis, H. M. Biggs, M. D.

May. Infant Welfare Work, L. Emmett Holt, M. D.

June. Hot Weather Hygiene, W. P. Northrup, M. D.

July. An Epidemic of Septic Sore Throat, F. Overton, M. D., Charles Krumwiede, M. D., and A. D. Jaques, M. D.; Antityphoid Vaccination, W. H. Park, M. D.

August. The use of the Schick Test, F. Overton, M. D., A. Zingher, M. D., and G. H. Turrell, M. D.; Typhoid Epidemic at Waterloo, F. W. Sears, M. D.

Digitized by Google

September-October. The Danger of Transmitting Disease by Feeding of Offal to Animals, Theobald Smith, M. D.

November. Tetanus — How It Should be Treated, W. H. Park, M. D. and M. Nicoll, M. D.; An Epidemic of Septic Sore Throat at Easthampton and Its Control, F. Overton, M. D.

December. Ultramicroscopic Parasitic Causes of Disease, Simon Flexner, M. D.; Milk-borne Scarlet Fever in Albany, O. R. Eichel, M. D.; Water-borne Gastroenteritis at Hudson Falls and Warrensburg, Theodore Horton; The Treatment of Suspected Rabies, A. B. Wadsworth, M. D.

In addition to such special articles a particular effort has been made to include news items in regard to current sanitary problems and sanitary progress throughout the State; and by means of the columns headed "News from the Field" sanitary supervisors and health officers may keep in touch with each others' work and gain both inspiration and guidance for their own efforts.

Each issue of the Monthly Bulletin contains the vital statistics for the second preceding month and these statistics as now tabulated by Director Wilbur for the cities and counties of the State are of course invaluable as guides to the various local health officers in the conduct of their work.

The Monthly Bulletin as an Organ of Popular Education

The Monthly Bulletin of the Department is its official organ of communication with the public and our first effort has been to popularize this bulletin and to convert it into an effective medium of popular education. Its name has been changed to HEALTH NEWS and its somewhat cumbrous form to a convenient 6 in. x 9 in. size printed in large clear type. All long and technical discussions (which when necessary are issued as Special Bulletins to a selected mailing list) have been banished from its columns. Each number contains half a dozen articles on timely health topics by men of national reputation in their respective fields. Thus the January number contained a valuable discussion of the relation between water supply and typhoid fever in the various cities of the State; the February number a series of articles on smallpox and vaccination with special reference to the epidemic at Niagara Falls. The March number was devoted to the subject of school hygiene and sanitation and included discussions of the sanitation

Digitized by Google

of the school building, of school medical inspection (by Dr. S. Josephine Baker), and of the teaching of hygiene in elementary schools (by Prof. M. A. Bigelow). The April and May numbers dealt with the campaign for infant welfare, then in its inception, and timely articles were published on Birth Registration, on Little Mothers' Leagues, on Infant Feeding and Clean Milk. The June and July issues were devoted to the health problems of summer, to hot weather hygiene, the influence of season on disease, the summer care of babies, vacation typhoid, anti-typhoid vaccination and the sanitation of railroad cars. The August and September-October numbers returned once more to school problems, discussing the communicable diseases of children (by Dr. T. M. Prudden), school medical examination, eye strain, the care of the teeth and the relation of diseased tonsils and adenoids to educability (by Dr. J. J. Cronin). The November issue dealt with the problems of public health education and included a striking letter from President-Emeritus Charles W. Eliot, and articles by Dr. W. A. Evans and Dr. L. K. Frankel; while the December number outlined the applications of the laboratory in its service to the public health.

Eleven issues of the HEALTH NEWS were issued during 1914 with a total of 436 pages, each number being illustrated with cartoons, diagrams or photographs. The edition was increased to 35,000 copies and the NEWS was mailed (except during the summer months) to each of the 15,000 school principals in the State as well as to the 1,200 health officers, the 8,000 physicians and a large special mailing list of persons interested. We feel that the school is a vital strategic point in the public health campaign and have striven to make the NEWS of special value to teachers in their work. Each issue published during the school year has contained a special health lesson, a basis for a classroom talk to children on some important topic and we have received gratifying response from the teachers in regard to this plan.

Special Bulletins and Circulars

In addition to this semipopular educational literature it is of course the duty of the State Department of Health to issue special circulars of information in regard to particular health problems. During the year 1914 five special bulletins and twenty-one circulars

Digitized by Google

were issued by the Department. Some of these were prepared by Director Shaw of the Division of Child Hygiene (Special Bulletin No. 1 and Circulars Nos. 2–8 and 10), or Director Meader of the Division of Communicable Diseases (Circulars Nos. 11–18, 21 and 22), one by Director Wadsworth of the Division of Laboratories and Research (Special Bulletin No. 2), one by Dr. W. B. Forbush (Circular 19), and the rest by the Division of Publicity and Education; while all were edited and printed by the Division of Publicity and Education. The special bulletins and circulars issued in 1914 are tabulated below. Altogether they include 195 pages, and the aggregate edition of the whole 26 publications issued during the year totalled 726,000 copies.

Special Bulletins Issued in 1914

Special Bulletin No. 1. Infant Welfare Campaigns and Infant Welfare Stations. The value of such stations, how to organize and manage them.

Special Bulletin No. 2. Sanitary Code, Chapters 1 and 2—Regulations for Cleansing and Disinfection. Rules for isolation of communicable disease. Cleansing and disinfection during and after communicable disease.

Special Bulletin No. 3. Efficiency in the Public Health Campaign. Discussion of the most fruitful lines of public health activity.

Special Bulletin No. 4. The Health Department and the State. Address by Governor Glynn at the Saratoga Conference of State Sanitary Officers.

Special Bulletin No. 5. County Tuberculosis Hospital, Why every county needs one. Sanatorium facilities of New York State.

Circulars Issued in 1914

Circular No. 1. The Filthy Fly. Habits and life history of the fly. Prevention of breeding. How to trap flies.

Circular No. 2. Before the Baby Comes. Proper preparation for motherhood. Diet for the mother. List of necessary things for the baby and mother.

Circular No. 3. The New Born Baby. How to properly nurse your baby. Advice to the mother. Weaning from the breast.

Digitized by Google

Circular No. 4. The Food of the Baby. Food the baby requires and how to prepare it. Rules for bottle feeding.

Circular No. 5. The Summer Care of Babies. Care of breast-fed and bottle-fed babies. How to prevent diarrhea.

Circular No. 6. Care of Milk in the Home. How to safeguard the milk for your baby. Directions for making a home-made ice box.

Circular No. 7. From the Bottle to Table Food. What food to give the baby after weaning from the bottle.

Circular No. 8. Avoid Infection. How the baby may be kept free from disease. Things which are bad for all babies.

Circular No. 9. Farm Sanitation. How the farm may be kept free from flies and mosquitoes. How to construct a safe well, a good type of watercloset. How to safeguard the milk.

Circular No. 10. Your Baby — How to Keep It Well. A 28-page booklet of advice on preparation for motherhood, nursing, feeding and care of the baby.

Circular No. 11. Smallpox. How to detect this loathsome disease. How the disease spreads and how it may be avoided. Directions for care of patients.

Circular No. 12 Vaccination. Care of the vaccination, so as to avoid sore arms or other harmful results.

Circular No. 13. The Teacher and Communicable Disease. How disease is caused and spreads. Symptoms by which the teacher may detect communicable disease.

Circular No. 14. The Conduct of an Isolation Period in the Home. The what, how and why of treating a communicable disease at home.

Circular No. 15. Scarlet Fever. How it may be detected. How it spreads and how it may be avoided. Directions to mothers, nurses, physicians and health officers for treating cases of this disease.

Circular No. 16. Typhoid Fever. Information for those who care for the patient, for physicians and health officers in regard to the spread and prevention of typhoid fever.

Circular No. 17. Measles. Information for parents and for those who care for the patient, for physicians and health officers in regard to the spread and prevention of measles.

Digitized by Google

Circular No. 18. Whooping Cough. Information for parents and for those who care for the patient, for physicians and health officers, in regard to the spread and prevention of whooping cough.

Circular No. 19. Amusements for Convalescent Children. Amusements for children that will make the convalescent period less tedious.

Circular No. 20. Tuberculosis (consumption). What it is. How it spreads. How it may be avoided. (Folder).

Circular No. 21. Tuberculosis (Consumption). What it is. How it spreads, how it may be detected and how it may be prevented. Directions to mothers, nurses, physicians and health officers for caring for this disease.

Circular No. 22. Sore Eyes of New Born Babies. Directions for Preventing Infant Blindness. How sore eyes of new born babies is caused and how it may be prevented. Directions for preventing blindness of infants.

Weekly Newspaper Health Service

In order to come in touch with a wider public than could be reached by our own publications we have asked the newspapers of the State to cooperate with us and have met with a ready and generous response.

Beginning on June 15 a weekly Health Hint of about 500 words has been sent out in electrotype or proof form, as desired, to the daily and weekly papers throughout the State. The topics covered are indicated by the list of headlines below:

Public Health Hints Prepared Each Week for the Readers of Newspapers

No. 1. (June 14) "Old age is one of the rarest of diseases." We shall deal only with Prevention — or Public Health — not with the care of individual diseases.

No. 2. Every Ailment of Infant Life Can be Prevented. "Nurse your Babies."

No. 3. Hot Weather Hygiene.

No. 4. What to Eat and Drink in Summer.

No. 5. Prevention of Typhoid Fever.

No. 6. Anti-typhoid Vaccination.

No. 7. Reporting Communicable Diseases.

Digitized by Google

No. 8. Isolation and Quarantine.
No. 9. Health on the Farm.
No. 10. Milk Supply and Disease.
No. 11. Safe Meat at Lower Cost.
No. 12. Modern Disinfection Simple and Efficient.
No. 13. Time Limits for Infection.
No. 14. The Story of a Typhoid Carrier.
No. 15. Smallpox and Vaccination.
No. 16. Communicable Diseases of School Children.
No. 17. Black Death at New Orleans.
No. 18. The Health of Armies.
No. 19. Tuberculosis, The Universal Foe.
No. 20. County Hospitals and Taxes.
No. 21. Health Work Saves 700 Infant Lives.
No. 22. State Sanitary Rules for Dairy Farms.
No. 23. Food Values and Costs.
No. 24. Need for a Varied Diet.
No. 25. Victims of a Typhoid Well.
No. 26. Early Signs of Tuberculosis.
No. 27. Why Bad Air is Bad.
No. 28. Dust and Disease.
No. 29. Health Questions Answered (How Measles is Spread: Danger from a Tuberculous Neighbor).

The newspapers have been ready and eager to use this material and by the winter 468 papers were regularly publishing these Hints, and we were able in this way to reach every important center of population in the State. We estimate that these Health Hints have at least a million and a half of readers, and we believe the good influence of this feature of our public education work to be well nigh incalculable.

In addition to this regular weekly press service special material of timely interest was prepared for the newspapers on different occasions during the year and this material, too, received a generous allotment of space in the newspapers.

Organization of health lecture service

The Division of Publicity and Education arranges for public lectures on health topics whenever requested, and the members of the staff as well as the Sanitary Supervisors and four special

Digitized by Google

lecturers have been kept busy filling engagements of this kind at points ranging from St. Lawrence to Nassau and from Chautauqua to Suffolk counties. During the year 309 lectures were given, as indicated in the table below, with an encouraging increase from month to month.

Lectures Delivered In

		Aug.	Sept.	Oct.	Nov.	Dec
Directors of divisions and sanitary supervisors	28	33	18	28	38	49
Special lecturers	..	..	4	13	29	69
Total	28	33	22	41	67	118

The special lecturer on mouth hygiene (Dr. Alexander Wolff), spoke in the main to school children, and the special lecturer on the eye and ear (Dr. W. T. Power), chiefly to school teachers. Mrs. E. M. Finigan lectured exclusively to parochial schools and Dr. Lydia A. DeVilbiss (special lecturer on child welfare and social hygiene), largely before women's clubs and schools.

One of the first things done in systematizing the lecture work was the distribution of addressed postal cards to the sanitary supervisors and special lecturers. Immediately upon arranging for a lecture engagement the Director is notified and this record is kept on file.

During the year a letter was sent to the secretary of each of the Women's Clubs in the State, and judging from the number and tone of replies it was patent that lectures on public health topics were needed and appreciated.

The smaller places in the State can be reached only at infrequent intervals by State officials and for authoritative teaching on health topics such communities must to a large extent depend on the local health officers. To aid those officials in their work a series of four syllabi of lectures on Health on the Farm, Man and Microbe, Tuberculosis and Clean Milk has been prepared. These syllabi were ready to go to press at the end of the year.

Preparation of Health Exhibits

The distribution of literature and the organization of a lecture system must be supplemented by a more striking and vivid appeal

Digitized by Google

to the eye in any well organized public health campaign. One of the important phases of our work has therefore been the preparation of popular exhibits.

Since the work of the State Department of Health during the summer was centered particularly on the reduction of infant mortality, we first prepared, with the cooperation of Director Shaw of the Division of Child Hygiene, three traveling exhibits dealing with this subject. Each exhibit included 18 panels illustrating the importance of birth registration, disinfection of the eyes of newborn babies, breast feeding, fresh air, cleanliness, fly protection and vaccination, showing how milk should be pasteurized and cared for, and how the baby should be washed and fed, and emphasizing the value of the infant welfare station as a center for the education of the mother.

As described in Director Shaw's report, these exhibits between April and July were shown in fifty-nine different places throughout the State. These exhibits led in many cases to the establishment of Infant Welfare Stations, and in every community through which the exhibits passed there has been left a trail of enthusiastic and constructive infant welfare work.

During the spring three more exhibits were prepared dealing with the problems of rural hygiene and sanitation. The 17 panels in each of these exhibits illustrate the sanitation of the home and the importance of cool fresh air, the proper way to dispose of household wastes and to control insect carriers of disease, the methods by which safe water and milk supplies can be insured, and the precautions which should be taken to check the spread of tuberculosis and other communicable diseases on the farm.

In August and September both Child Welfare and Rural Hygiene exhibits were sent on circuit to the county fairs and were shown at fifty-three county fairs as well as at the State Fair at Syracuse, reaching as we estimate, over a million people.

Exhibit for the Panama-Pacific Exposition

In addition to these six traveling exhibits a special exhibit illustrating the work of the State Department of Health was prepared for the Panama-Pacific Exposition at San Francisco,

Digitized by Google

This exhibit began with an electrical moving model showing the rate at which a given group of persons succumb to premature death at different age periods. Four panels of photographs and text then illustrate the methods employed in controlling the four principal causes of preventable death, infant mortality, tuberculosis, typhoid fever and the communicable diseases of childhood. The organization of the New York State Department of Health is illustrated by an electric flash panel and by eight decorative wall panels (painted by Miss E. A. Champlin) symbolizing the work of each division.

The service rendered by the Division of Laboratories and Research is indicated by a display of outfits and laboratory supplies and by albums of photographs illustrating the technical procedure in use. The Division of Sanitary Engineering is represented by a relief model showing how stream pollution menaces the health of communities; by a relief map of the State with partial and complete sewage purification systems and filtered and unfiltered water supplies indicated by colored flashlights; and by models of the Albany water filter and the Batavia sewage disposal plant. The work of the Division of Child Hygiene is illustrated by a model of an infant welfare station and that of the Division of Publicity and Education by a wall panel showing work accomplished and planned for the future.

In connection with this exhibit two original motion picture films were prepared, one, "Bringing it Home," emphasizing the value of an infant welfare station, and the other "In His Father's Footsteps," illustrating problems of rural sanitation.

A guide book to the exhibit was also prepared in such form as to give a clear *resumé* of the problems of the State Department of Health, its organization and the plans by which it believes that 25,000 lives can be saved in New York State within the next five years.

Staff of the Department

During the months of March, April and May I served as Advisory Expert on Public Health Education, and on June 1 I was appointed Director of the Division. Mr. E. A. Moree was Acting Director of the Division during the month of May, and since June 1 has been Advisory Expert on Public Health Education.

Digitized by Google

His practical experience as a newspaper man and his wide acquaintance throughout the State have made his services of unique value in connection with our campagn of public education in the press.

Mr. C. J. Storey has acted throughout the year as Supervisor of Exhibits and has served with marked ability both in the preparation of the exhibits listed above and (under the direction of Director Shaw) in the organization of the infant welfare and county fair campaigns.

Mr. David Greenberg, S. B., joined the Division on July 7 as Assistant, and has most efficiently aided in the editorial duties of the office and in the organization and systematization of the lecture work.

I desire to express my appreciation of the services of Mr. Moree, Mr. Storey and Mr. Greenberg, as well as of Miss Anna B. Byrne who has ably supervised the proof reading and press work of all Department publications.

Respectfully submitted,

C.-E. A. WINSLOW,

Director

Digitized by Google

Digitized by Google

DIVISION OF VITAL STATISTICS

Digitized by Google

PERSONNEL OF DIVISION OF VITAL STATISTICS

[November 20, 1915]

Cressy L. Wilbur, M.D., *Director*

Miss Alice M. Humphreys, Secretary and Assistant to Director

William B. Melick, M.D., Inspector of Vital Statistics

Miss Ella H. Porter, Statistical Clerk and Acting Chief of Division

Henry Chalmers, Junior Statistician

Jere Grogan, in charge of records and marriage compilation

Miss Meta E. Mills, in charge of registrars' accounts

Miss Eleanor C. Gibb, in charge of corrections

Miss Rae Samuels, in charge of indexes

Augustus Eckert, in charge of machine tabulation

Mrs. Elizabeth Henning, in charge of occupation editing

Miss Joanna McNamara, clerk, typewriter.

Miss Jessie Dorrance, clerk

Miss Clara B. Coomes, clerk

Miss Ruth E. Ellett, stenographer, clerk

Herbert Thomas, clerk, assistant machine work

Miss Frances McGarry, stenographer, clerk

Miss Mary E. Gilkerson, clerk

Miss Rose V. Burgess, clerk

Miss Annette Rowell, clerk

Miss Elizabeth A. Williams, clerk

Digitized by Google

DIVISION OF VITAL STATISTICS

PAGE

General purpose and organization of Division..... 298
Results of registration of vital statistics: 1914..... 298
Explanation of tables presented..... 299
NEW YORK CITY AND REST OF STATE: *Infant mortality (deaths of infants under* 1 *year of age per* 1,000 *living births)*: 1905-1915 (*nine months*). [*Months given separately*, 1914-1915] 302
Necessity for enforcement of law..... 307
Shall New York State be admitted to the permanent birth registration area to be established by the Federal Government January 1, 1916?..... 309
Order of State Commissioner of Health (November 6, 1915) 309
Letter from the Director of the Census (November 12, 1915) 311
Steps taken for enforcement of the law..... 312
Work performed by the Division..... 329
Important blanks and instructions..... 332
Urgent need for (a) binding of records, (b) printing indexes, and (c) proper vault for safe preservation against fire of the invaluable and irreplaceable vital records of the people of the State..... 335

Digitized by Google

REPORT OF DIRECTOR

ALBANY, *April* 1, 1915

HON. HERMANN M. BIGGS, M. D., *State Commissioner of Health*

DEAR SIR.— I have the honor to submit a report of the work accomplished and in progress in the Division of Vital Statistics, with statistical tables for the year 1914; also certain data for comparative purposes relating to previous years.

General purpose and organization of division

With the adoption of the new law for the registration of births and deaths which follows closely the Model Law recommended by the U. S. Bureau of the Census, an entire reorganization of the work of the Division and also of the conduct of work by the local registration officials became necessary. The general character of the present law was described by Mr. Fenimore D. Beagle, Executive Clerk, but at the time of the installation of the new law Chief Clerk and Director of the Division of Vital Statistics of this Department, in the Thirty-third Annual Report for the year 1912, pages 228 to 233. The preliminary work of organization was ably conducted by Mr. Beagle and I found that the new system was in general operation throughout the State when I assumed the position of Director of the Division on April 7, 1914. It has been my task to carry out and complete the work of organization, to instruct local registrars in the performance of their duties under the law, and especially to require them to comply strictly with the provisions relating to prompt returns to this Department, aiding them with the support necessary to insure compliance with the law by physicians, midwives and undertakers.

Results of registration of vital statistics: 1914

The preparation of a registration report not infrequently consists of a more or less perfunctory discussion of the data contained in the statistical tables, which in themselves ought to be sufficiently clear not to require special elucidation. Such discussion necessarily depends upon the interpretation of rates, these rates being based upon comparison of the vital data with the fundamental base of population. At the time of preparation of this report the results of the recent State census (June 1, 1915) are

Digitized by Google

not available for the entire State. It seems undesirable to continue discussion of rates based upon estimated populations derived from comparison of the censuses of 1900 and 1910 when, within a short period, more definite population data will be available. Therefore it seems expedient to omit the detailed rate tables found in previous reports, or at least those relating to individual cities, with the expectation of presenting in the next annual report a complete series of rates revised according to the latest enumeration of population not only for the year 1915 but also for the years intervening between 1910 and the year of the last State census. It will thus not be necessary to discuss rates based upon populations which will shortly be subject to revision, and attention can be given in this report more directly to some important features relating to the proper enforcement of the law and provision for safe-keeping of the vital records.

The statistical tables, pages 339 to 484, relate chiefly to the year 1914 and, except for the State as a whole, do not present rates. These tables are listed on page 340, and an effort has been made to make the general arrangement, the headings, and other component parts thereof sufficiently clear — by the aid of notes when required — so that no special explanation will be needed. We may, however, take up the series of tables in order and explain the purpose served by each.

Explanation of tables presented

Table 1 — Table 1 gives the general results of registration of births, marriages and deaths in New York since the registration law began to be fairly effective, at least for deaths, in 1885, up to the present time. The estimated populations are given for the early years as printed in the annual reports of this Department. Later years have been supplied by the United States Bureau of the Census. In this table and the one which follows it will be observed that there are some discrepancies in the population estimates and that the rates correspondingly differ. Table 1 is given as printed in the annual reports for some years past; in the next report a general revision of the rates, based on a uniform series of estimated populations, may be compared conveniently with the data heretofore printed. The total number of births registered for the year 1914 was 240,038, corresponding to a birth

Digitized by Google

rate of 24.2 per 1,000 population. This rate is the highest rate ever recorded in the State of New York since the beginning of registration although it is not likely that it is in fact the highest birth rate that occurred. The discrepancy is due to the fact that, during the early years of registration, the returns of births were extremely defective. They are defective at the present time, although to a less degree, and it is expected that the measures which have now been adopted by the Department, as described in a subsequent portion of this report, will cause the birth registration of the State to be practically complete, so that the figures relating thereto can be accepted without discount.

The number of deaths registered during the year for the entire State was 145,476, the death rate being 14.7 per 1,000 population. This is the lowest death rate on record since the year 1885 according to the table. As a matter of fact it is undoubtedly the lowest death rate that ever occurred in the State of New York because the rates for 1885, 1886, and earlier years were defective on account of the imperfect registration of deaths.

The number of marriages returned for the year was 93,793, corresponding to a marriage rate of 9.5 per 1,000 population. Expressed as a rate of persons married per 1,000, which is perhaps more convenient for comparison with birth and death rates, the figure should be doubled, that is, it becomes approximately 19 per 1,000.

Table 2 — Table 2 presents a series of estimated populations, deaths, and death rates for the State of New York, 1885 to 1914; for the city of New York, since the formation of Greater New York, beginning with 1898; and for the remainder of the State. The populations are as uniformly estimated by the United States Bureau of the Census and supplied to this Department in manuscript. The rates, therefore, will not be subject to revision except that for the years 1911 to 1914, some changes in the estimated populations may be made when the final results of the State census of 1915 are available. Slight differences will be noted in some of the figures as compared with Table 1. I have not undertaken to correct these and other discrepancies which may appear in certain tables, some of which have perhaps been carried on for some years. I shall, however, before the appearance of the next report, check up all tables presented and

Digitized by Google

investigate the reasons for any differences which appear, so that the results may be given in final form for which we can fully vouch. It is unfortunately true in many offices that standing tables running from year to year may contain errors or that the results of additions to the original compilations may not be incorporated in all tables presented.

Table 3 — In Table 3 living births are shown as compiled by months, color and sex. A statement of stillbirths is also given, which is based on a comparison of the stillbirths as returned in births and in deaths.

Table 4 — In this table a general statement of the distribution of deaths by sex, color, conjugal condition and general nativity is presented. 54.4 per cent of the decedents were male, 97.5 white, 42.2 single, 35.8 married, and 21.3 widowed or divorced. By general nativity, slightly over two-thirds (66.7 per cent) were natives. These figures are of no value whatever as showing the mortality of various classes without a comparsion of the corresponding distribution of the population by age, which is not now available.

Table 5 — Table 5 shows the distribution of decedents by color, general nativity and conjugal condition according to the important age periods of life.

Table 6 — The infant mortality of the cities of New York for the year 1914, with comparative figures for the preceding year, is given in this table. Infant mortality is the ratio of deaths of infants under one year of age to living births, and hence is not dependent upon the enumeration of the population. We should, therefore, be able to present for the State as a whole, for each city, and for each rural county, a correct figure for infant mortality. Unfortunately, however, owing to the defective registration of births in some places, the comparison is misleading. When the births are not properly reported, the infant mortality is apparently higher than it actually is; hence the necessity of enforcing the law more thoroughly for the purpose of obtaining this important ratio which is necessary for the prevention of infant deaths. For all cities of the State the infant mortality for 1914 was 100 per 1,000. That is to say, one child in ten born alive died before it reached the age of one year. This rate shows a considerable reduction over that for 1913 (109).

Digitized by Google

In examining the figures for individual cities, the rate for Rochester (85), which is very low, is in part a result of the fact that many deaths of children born in Rochester occur at the Infants' Summer Hospital at Charlotte, a suburb which is shortly to be annexed to the city. (The total number of deaths of infants born in Rochester and dying in Greece and Charlotte was 29, the addition of which to the number of deaths of infants under one in the city of Rochester would materially raise the rate of that city, namely to 89 per 1,000.) In other places, notably Cohoes, the rate is high because many births fail to be registered, and in Lackawanna the rate is especially high because many infants are brought to that city from Buffalo, thereby unduly raising the local rate. There were in 1914, out of a total of 156 nonresident deaths in Lackawanna, 135 under one year of age; exclusive of these the rate would be 153.

The following table makes a comparison of the infant mortality of New York City and the rest of the State for the years 1905 to 1914, and also for the first nine months of the year 1915, together with a comparison of the monthly rates beginning with January, 1914, down to October, 1915:

NEW YORK CITY AND REST OF STATE: *Infant Mortality (Deaths of Infants Under 1 Year of Age per 1,000 Living Births):* 1905–1915

YEARS AND MONTHS	New York City	Rest of State
Years		
1905	158	137
1906	154	140
1907	145	139
1908	128	136
1909	130	126
1910	126	135
1911	112	118
1912	105	114
1913	102	120
1914	94	105
1915 (9 months)	103	105
Months		
1914 — January	90	104
February	95	112
March	107	114
April	95	109
May	98	92
June	74	88
1914 — July	103	104
August	119	123
September	104	113
October	76	104
November	84	87
December	89	88
1915 — January	94	95
February	90	107
March	93	112
April	102	105
May	107	86
June	88	82
July	105	100
August	131	125
September	114	129
October	91	93

Digitized by Google

Table 7 — Infant and child mortality are shown for the State of New York from 1885 to 1914 so far as available. Until 1904 no compilation was made of the number of deaths of infants under one year. It may be said, however — and the remark applies generally to the discussion of these tables — that certain data not presented in these reports because not compiled by the State Department may be found for the State in the annual reports on mortality statistics published by the Bureau of the Census. It will be the purpose of the Division to bring together in future reports all accessible data relating to a specific subject from all sources whether State or Federal.

Table 8 —A table in the same form as the preceding is given for New York City and the remainder of the State.

Table 9 — Table 9 is in many respects the most important table in the report because it gives a detailed statement of the causes of death in the State, according to the International List, for the year 1914. The figures are given by months so that the fluctuations dependent on seasonal mortality may be observed. It is not necessary to enter into detailed discussion but some of the more important causes will be taken up in the following table.

Table 10 — Table 10 presents the deaths and death rates from certain important causes of death for each year of registration from 1885 to 1914. The rates are based on populations as heretofore presented in these reports. The rates as printed in preceding reports have not been revised to eliminate possible discrepancies due to changes in estimates of populations but may be accepted in a general way as indicating the trend of mortality. All rates in this table are per 100,000 population.

Typhoid fever — The number of deaths (878) and rate (8.9) for the year 1914 from typhoid fever are the lowest ever recorded in the history of the State.

Measles — Measles (839) shows the smallest number of deaths from this cause since 1903 (721) and the rate for 1914 (8.5) is the lowest on record.

Scarlet fever — The number of deaths from scarlet fever (687) is the smallest recorded since 1885 and the death rate (6.9) is the lowest.

Digitized by Google

Whooping cough — The number of deaths from whooping cough (730) is lower than that for the preceding year (822) but greater than the number for 1912 (683). The death rate (7.4) is lower than the average but not as low as shown in exceptionally favorable years, e. g., 1904 (5.4), 1908 (5.9) and 1912 (7.1).

Diphtheria — Diphtheria caused 2,015 deaths in 1914, a larger number than that recorded for any of the three years preceding (1911–1913) although less than the number registered for any of the 26 years given in the table prior to 1911. The death rate was 20.4 per 100,000 — far higher than it should be but much below the exceedingly high rate shown for many previous years.

"Consumption" — This old title survives, it being equivalent to tuberculosis of the lungs, on account of the necessity of continuing the figures given in older reports. The total number of deaths for 1914 was 14,248, somewhat more than the numbers recorded for any of the years preceding since 1908. The death rate (143.9) is slightly higher than that for 1913 (142.3) and 1912 (142.9) but lower than the rate for any year prior to 1912.

Cancer — The term "cancer" includes all malignant neoplasms. Unlike tuberculosis, the rate shows a marked increase from the early part of the registration period (1885) up to the present time. The rate for the year 1914 (90.0) is the highest on record in the State.

Of course it should be understood that a crude death rate, not analyzed with reference to age constitution, and other factors, is not in itself conclusive evidence of increase or decrease of mortality from a specified cause.

Diarrhea and enteritis — The number of deaths from this cause, which is a very important factor of infant mortality, was low for the year 1914 (6,287) as compared with previous years and more especially the earlier years of registration. The rate (63.5) for 1914 is the lowest on record. It should be remembered that this rate, which is based on the total population, is far below the true incidence of mortality from this cause at the specific age period, namely, children under two years of age.

Old age — It is interesting to note the marked decrease in the number of deaths reported from "old age." The term itself is an indefinite one and indicates chiefly that the physician did not

Digitized by Google

choose to specify the cause of death. As a result of more careful reporting the number of such cases tends rapidly to diminish, so that the number recorded for 1914 (1,338) is only about one-fourth as many as the number reported for the first year of registration, although the population has very largely increased.

The fact of the diminution of "old age" and other indefinite causes should be borne in mind in considering the increase of more definite causes, a part of which may be due to the transference of indefinite terms.

Table 11 — In this table the distribution of the deaths returned from cancer, stated according to the parts of the body affected as given in the International List of causes of death, may be seen for the years 1907 to 1914. "Cancer of other or unspecified organs" includes deaths reported simply as "Cancer," without statement as to organ or part of body affected; as physicians come to understand the necessity of accurate statistics in this respect — a matter which has been brought before them by the cooperative work of the American Society for the Control of Cancer and the United States Bureau of the Census — it may be expected that much greater precision will be reached in future returns.

Table 12 — A condensed statement is given by months for the deaths returned in the State of New York according to certain important age periods and important causes. The list of causes is the same as that given in previous reports and corresponds somewhat closely to the Abridged International List.

Table 13 — Table 13 is a detailed table showing, according to the same age periods and causes of death as the preceding table, the number of deaths for each county, city, village of 2,500 population, other villages, and towns in the State. The villages under 2,500 population and towns are grouped so that comparisons may be made as soon as population data are available of the incidence of mortality in these important elements of population.

Table 14 — Table 14 gives corresponding data for state institutions, the mortality in these having been noted also for all institutions in which there were as many as 20 deaths during the year 1914 in the table preceding. Letters are appended from the Sec-

Digitized by Google

retary of the State Hospital Commission and from the Fiscal Supervisor of State Charities, in which the populations of the various institutions are given on July 1, 1914, and July 1, 1915. These statements will be of service in obtaining the populations of the areas in which the institutions are located when the deaths in the institutions are deducted, so that rates may be computed of the deaths in the cities or other places containing institutions exclusive thereof. This is the only fair method, that of deducting simply the deaths being evidently incorrect.

Table 15 — Table 15 presents some data similar to those given in the preceding table for the cities of the State grouped according to population.

Table 16 — Table 16 gives the corresponding data for the counties of the State including both urban and rural.

Table 17 — Table 17 is a continuation of one of the main tables published in preceding reports. It shows the number of births, marriages and deaths for each county and subdivision thereof. The figures for births and deaths are exclusive of stillbirths.

Table 18 — Table 18 presents for each county and subdivision the number of deaths from certain important diseases, corresponding closely to the list as presented in the monthly compilation. District numbers are also given as a matter of convenience for reference. The populations are those of the last available census, (1910) and aggregates are also given for total villages and total towns under each county.

Table 19 — Table 19, the final table of this report, is a population table supplied by the United States Bureau of the Census from manuscript and published in this report for future use. The table shows the age distribution of population in the several counties of the State by cities and rural part of each county. It is to be hoped that a similar table will be available from the State census of 1915 so that specific death rates may be computed and perhaps also corrected or standardized rates. Crude death rates, which are all that have been available for some time, may be very misleading. It is necessary that the population and deaths be analyzed by the differential elements which have the most important bearing upon mortality. Chief of these is age, and although the age periods given in this table are not the ones most

Digitized by Google

suitable for mortality statistics in all respects, they will enable some specific rates of the important groups of population to be obtained and thus afford actual knowledge as to the true incidence of mortality in the urban and rural parts of the State.

Necessity for enforcement of law

In the pamphlet of "Legal Importance of Registration of Births and Deaths" prepared by the Bureau of the Census, may be found a statement of the necessary provisions which govern the registration of deaths and births:

Deaths

1. Deaths must be registered immediately after their occurrence.
2. Certificates of death should be required.
3. Burial or removal permits are essential to the enforcement of the law.
4. Efficient local registrars are necessary.
5. The responsibility for reporting deaths to the local registrars should be fixed.
6. The central registration office should have full control of the local machinery, and its rules should have the effect of law.
7. The transmission and preservation of returns should be provided for.
8. Penalties should be provided *and enforced.*

Births

1. Births must be registered immediately after their occurrence.
2. Certificates of birth should be required.
3. Some check is necessary to secure enforcement of the law.
4. Efficient local registrars are necessary.
5. The responsibility for reporting births to the local registrars should be fixed.
6. The central registration office should have full control of the local machinery, and its rules should have the effect of law.
7. The transmission and preservation of returns should be provided for.
8. Penalties should be provided *and enforced.*

These necessary provisions were formulated by committees of the American Public Health Association, American Medical Association, and other national organizations, have been approved by the Bureau of the Census, and subjected to the test of actual practice to a certain extent in many states so that it is known that they are sufficient and necessary for the proper conduct of registration work.

I may call attention especially to the final requirement under both births and deaths, namely, "8. Penalties should be provided *and enforced.*"

I am happy to say that, prior to my coming to Albany to take charge of the work of this Division, you had already taken a very definite and decided stand on this fundamental question of efficient and thorough enforcement of the Vital Statistics Law. I

Digitized by Google

quote the circular notice issued by you under date of March 31, 1914, and published in the HEALTH NEWS for that month, pp. 94 and 95:

Warning to physicians and registrars in regard to reporting vital statistics

The provisions of chapter 619 of the Laws of 1913, amending the Public Health Law in relation to vital statistics, must be enforced. The State Department of Health invites the hearty co-operation of health officers, physicians and registrars of vital statistics, in its effort to secure the full registration of births, deaths and contagious diseases.

The vital statistics of New York State under the new law should be complete, and the State Department of Health will use to its full extent the authority with which it is vested to secure this end.

To Physicians: The attention of all physicians is called to the provisions of the said law.

Every physician in attendance upon a birth must, within five days after such birth, file with the local registrar a certificate thereof on the prescribed form. Every medical certificate of death must be made out by the physician, last in attendance, in the form and manner prescribed. Every physician, who has not already done so, must register immediately with the local registrar.

All births which have not been reported within the period prescribed by law may be registered with the State Department of Health up to May 30 without penalty. After that date, it is the purpose of the Department of Health to take such legal action as seems necessary to secure full registration of all births occurring in this State, and to enforce the penalties prescribed by law.

To Registrars: The attention of all registrars and subregistrars of vital statistics is again called to the warning issued by this Department in its "Official Bulletin No. 4," mailed to every registrar on February 20, 1914.

Registrars are advised to study carefully the provisions of the above mentioned law, for they are primarily charged with the strict and thorough enforcement of its provisions, under the supervision and direction of the State Commissioner of Health.

Digitized by Google

On and after May 5, 1914, any registrar or subregistrar, who, in the judgment of the State Commissioner of Health, fails or neglects to discharge efficiently the duties of his office or to make prompt and complete returns of births and deaths, may be summarily removed by the Commissioner. His name will be posted in the HEALTH NEWS of this Department and his prosecution may be ordered.

HERMANN M. BIGGS,
Commissioner of Health

ALBANY, N. Y., *March* 28, 1914

Shall New York State be admitted to the permanent birth registration area to be established by the Federal Government January 1, 1916?

I have endeavored to comply with the spirit of the notice given above and to carry on the proper and necessary enforcement of the law according to the provisions therein. As in all other states, however, it has happened in some cases — in fact, in many cases — that there has been more or less failure to comply with the requirements of the law by physicians, midwives, and to a much less degree by undertakers. Hundreds of letters have been written to physicians and midwives calling attention to delay or neglect in filing birth certificates as the law requires. In response to such letters many explanations have been received but seldom any sufficient reasons why the law should not be obeyed. I was, therefore, much gratified at your decision to undertake the complete and thorough enforcement of the law as expressed in your letter of November 6, 1915, copy of which is given below:

Order of State Commissioner of Health

November 6, 1915

DR. CRESSY L. WILBUR, *Director, Division of Vital Statistics, State Department of Health, Albany, N. Y.:*

DEAR DR. WILBUR.— During the past year the Department of Health under your direction has made sincere and repeated efforts to acquaint practicing physicians, midwives, undertakers

Digitized by Google

and local health officers and registrars with the provisions of the Vital Statistics Law, particularly in relation to the registration of births and deaths.

It is of the utmost importance that the vital statistics of the State should be complete and accurate. Under the Public Health Law the duty is specifically imposed upon the State Commissioner of Health to enforce the provisions of this law. The Director of the United States Census has advised me that the State of New York will not be admitted to the birth registration area until the law requiring prompt filing of birth certificates is thoroughly enforced.

The Vital Statistics Law of New York State is based upon the Model Law drawn up by the representatives of the United States Census Bureau and a committee of the American Medical Association, and is regarded by all those who are most competent to judge as perhaps the best law which has yet been enacted.

It is my duty and my purpose to enforce its provisions without discrimination; and I wish to hereby direct that after this date *every* violation be forthwith reported to the district attorney of the city or county in which the violation occurs for prosecution, with the reminder that the several district attorneys are specifically required by the law to prosecute when so requested by this Department. Where the violations are first violations and unintentional, I would suggest that the district attorney be requested to ask that only the minimum fine of $5 be imposed. In this connection, I wish to say that in any instance in which the strict enforcement of the law works a hardship or an injustice, either in your judgment or that of the district attorney or the officers of the court before whom the case is brought, in any primary violation I will personally pay the fine — but I wish the prosecution to be brought in every case whatever nature the violation may be.

Yours very truly,

HERMANN M. BIGGS,

Commissioner of Health

Digitized by Google

Letter from the Director of the Census

The importance of thorough execution of this order is exceedingly great at the present time, not only that the law of the State of New York may be respected everywhere within the State and the interests of children and parents be protected by the compulsory requirement that physicians and midwives shall file certificates of birth at the time and place provided, but also because of the important action which has recently been taken by the Director of the United States Census in providing for the establishment of a *temporary* birth registration area for the year 1915 and for a *permanent birth registration area* beginning January 1, 1916, to the latter of which the State of New York cannot be admitted unless the law providing for the registration of births is thoroughly enforced as directed by you. Following is the letter of the Director of the United States Census:

DEPARTMENT OF COMMERCE,
BUREAU OF THE CENSUS.

WASHINGTON, *November* 12, 1915

MY DEAR DOCTOR WILBUR.— I have decided to establish a *temporary* registration area for births limited to the transcripts of the certificates of births registered for the year 1915 and returned to your office prior to March 1, 1916. Transcripts will be obtained from a selected list of states which possess laws substantially the same as the Model Law recommended by the Bureau of the Census, complying with the essential principles of birth registration, and which have been enforced for the year 1915 with such a degree of efficiency that the number of births registered exceeds to a reasonable extent the number of infants under one year of age as estimated from the latest enumeration of the population.

The *permanent birth registration area* will be organized for the year 1916 and will include only such states out of the number which may be included in the temporary birth registration area as shall give evidence to the Bureau of the Census that they are uniformly and thoroughly enforcing the state law providing for the registration of all births which occur in the state within a definite interval of time as provided by said law, and with pros-

Digitized by Google

ecution and enforcement of the penalty of the law for violation thereof either with respect to the failure to file births entirely or to file them within the time fixed by law.

I desire to advise you that this requirement will be rigidly enforced and to urge that, if you are not already doing so, you should make an effort to enforce the provisions of your law for the registration of births by actual infliction of the penalties contained therein, with records of fines, so that the Bureau of the Census may be fully informed as to the effectiveness of administration of the law.

The establishment of a permanent birth registration area, with uniform and thorough enforcement of the law, will mark the beginning of the first satisfactory statistics of births in the United States, and it is hoped that other states which may not be included in the temporary birth registration area or which, although included therein, may be rejected for the permanent birth registration area, will make an effort to procure such thorough enforcement of the law as is essential for the complete and prompt registration of births.

Full details with respect to the manner in which the transcripts are to be made and the compensation therefor will be supplied in a separate communication by Mr. R. C. Lappin, Chief Statistician for Vital Statistics.

Very truly yours,

SAM. L. ROGERS,

Director.

CRESSY L. WILBUR, M.D.

Director, Division of Vital Statistics, State Department of Health, Albany, N. Y.:

Steps taken for enforcement of the law

One of the first means taken to carry out your direction for thorough enforcement of the law was the preparation of a poster (reduced facsimile of which appears on the opposite page) giving official notice to all registrars of vital statistics, subregistrars, physicians, midwives, undertakers, and persons in charge of cemeteries in the State of New York (exclusive of the city of New York), that the Vital Statistics Law of the State of New York will be strictly enforced without discrimination with respect

Digitized by Google

OFFICIAL NOTICE

TO ALL

REGISTRARS OF VITAL STATISTICS, SUBREGISTRARS, PHYSICIANS, MIDWIVES, UNDERTAKERS, AND PERSONS IN CHARGE OF CEMETERIES

IN THE

STATE OF NEW YORK

(EXCLUSIVE OF THE CITY OF NEW YORK)

The Vital Statistics Law of the State of New York (exclusive of the City of New York) will be strictly enforced, without discrimination with respect to any person, in accordance with the direction of the State Commissioner of Health, which is printed below for your information:

NEW YORK
STATE DEPARTMENT OF HEALTH
ALBANY

November 6, 1915

Dr Cressy L. Wilbur,
Director, Division Vital Statistics
State Dept. of Health
Albany, N. Y.

Dear Doctor Wilbur:

During the past year the Department of Health under your direction has made efficacy and repeated efforts to suggest practicing physicians, midwives, undertakers and local health officers and registrars with the provisions of the Vital Statistics Law, particularly in relation to the registration of births and deaths.

It is of the utmost importance that the vital statistics of the State should be complete and accurate. Under the Public Health Law the duty is specifically imposed upon the State Commissioner of Health to enforce the provisions of this law. The Director of the United States Census has advised me that the State of New York will not be admitted to the birth registration area until the law requiring prompt filing of birth certificates is thoroughly enforced.

The Vital Statistics Law of New York State is based upon the model law drawn up by the representatives of the United States Census Bureau and a Committee of the American Medical Association, and is regarded by all those who are most competent to judge as perhaps the best law which has yet been enacted.

It is my duty and my purpose to enforce its provisions without discrimination; and I wish to hereby direct that after this date every violation be forthwith reported to the district attorney of the city or county in which the violation occurs for prosecution, with the reminder that the several district attorneys are specifically required by the law to prosecute when so requested by this Department. Where the violations are first violations and unintentional, I would suggest that the district attorney be requested to ask that only the minimum Fine of $5 be imposed. In this connection, I wish to say that in any instance in which the strict enforcement of the law works a hardship or an injustice, either in your judgment or that of the district attorney or the officers of the court before whom the case is brought, in any primary violation I will personally pay the Fine,—but I wish the prosecution to be brought in every case whatever nature the violation may be.

Yours very truly,

Hermann M. Biggs

Commissioner of Health.

HMB/X

Local Registrars are directed to REPORT AT ONCE to this Department the name of any undertaker or person acting as such who interes or removes a body of a dead human being from the Registration District in which the death occurred, under any circumstances whatever, without first having FILED a satisfactory Death Certificate and having in his possession a Burial, Removal, or Transit Permit issued by the Local Registrar, Deputy Registrar, or Subregistrar.

Local Registrars are directed to REPORT AT ONCE to this Department the name of any physician, midwife, or person acting as midwife, who, having been the attendant at the birth of a child born in the State of New York (exclusive of New York City), has failed to FILE a complete and correct Birth Certificate within FIVE (5) days thereafter (Sundays and Legal Holidays excepted) as required by law.

Local Registrars will be held accountable for entering the correct Date of Filing (which means the date of actual receipt of a correct and complete certificate in their offices) upon each birth and death certificate as received, together with official signature as Local Registrar and Registered Number. THESE MUST BE ENTERED IMMEDIATELY UPON ACCEPTANCE. Sanitary Supervisors will report disregard or neglect of this order, failure to comply with which will warrant prompt removal from office and prosecution if necessary.

LOCAL REGISTRARS! The thorough enforcement of the Vital Statistics Law means a new era in public health. Our birth registration has been incomplete through failure and neglect, in many instances, to file birth certificates. Rates of infant mortality, so necessary for the prevention of infant deaths, have been imperfect and misleading because some physicians and midwives have failed to comply with the law. The great majority of the physicians, midwives, and undertakers in the State are law-abiding and will cordially support you in the discharge of your full duty. BE COURTEOUS AND CONSIDERATE, explain the importance of the Vital Statistics Law for the protection of the rights of the people, the prevention of disease and untimely deaths, and as a safeguard against crime. Your office is a most necessary, important and honorable one, and strict fidelity to your duty is essential to its proper performance. If any person complains of any well-founded difficulty or hardship under the operation of the law, please refer the matter at once to the Department, which will be glad at any time to consider suggestions from any source for improvement of the service or for possible amendment of the law. It is our duty, however, to execute the law as it is written. Do not tolerate any abusive language or criticism, but refer the person making them to the Department. Also do not yield to any request for permission to violate the law or to enter a false date of filing to conceal such violation.

PARENTS! Ask your Local Registrar whether the births of your children have been registered. He will gladly refer to his index and advise you without cost. If not registered, communicate with this Department, giving date, place, and name of attending physician or midwife.

Very respectfully,

CRESSY L. WILBUR, M.D.,
Director, Division of Vital Statistics

Albany, November 12, 1915

Posted by _____ (Name) Local Registrar, Town, Village, City of _____ County of _____

Deputy (to act in case of illness or absence) _____ (Name) _____ (Address)

Digitized by Google

to any person. Two copies of this poster were sent to each local registrar, with a return receipt in which the local registrar certifies that one copy is posted in his office and one posted outside where the people generally can see and understand the requirements of the law. Copies were also sent to district attorneys and to each newspaper published in the State with a letter explaining the great importance of birth registration and the necessity for strict compliance with the law.

Such need is clearly shown by the fact that little regard was apparently paid to the strict requirements of the law by a considerable number of physicians and midwives practicing in the State. For example, a careful count was made of the returns of births received for the month of May in order to learn in how many cases the law had been violated by physicians or midwives with respect to prompt filing of certificates within five days, the limit set by law. A similar count was made for September, after some improvement had been effected by the means described below, and a summary for the two counts is given in the following table:

STATE OF NEW YORK (EXCLUSIVE OF NEW YORK CITY): *Delayed returns of births for the months of May and September, 1915*

[The law requires all births to be filed with the Local Registrar within FIVE (5) days.]

MONTH	Total births	Delayed Returns		Physicians					Midwives				
		Number	Per cent.	Total number delinquent	Delayed births filed				Total number delinquent	Delayed births filed			
					Total	6th to 9th day	10th to 30th day	Over 30 days		Total	6th to 9th day	10th to 30th day	Over 30 days
1915													
May.....	8,242	1,675	20.3	965	1,517	778	624	115	88	158	99	34	25
September...	8,366	1,098	13.1	688	1,005	602	320	83	50	93	58	22	13

It appears that in the returns for May, 1915, out of 8,242 births registered in the State exclusive of New York City, no less than 1,675 or 20.3 per cent (over one-fifth) were filed with the local registrars later than the law requires. Some of these were apparently merely trifling delays ranging from the 6th to the 9th day. Others were more serious, ranging from the 10th to the 30th day, and a considerable number, both by

Digitized by Google

physicians and midwives, were over one month, some of them being several months later than the law requires. The total number of delinquent physicians for this single month's returns was 965 and of midwives 88. For the month of September a similar comparison shows that, with a slightly increased number of births (8,366), the number of delayed returns was only 1,098 or 13.1 per cent. There were, however, 688 physicians and 50 midwives guilty of delay in filing.

Among the measures which resulted in the improvement shown during the four months embraced in the preceding table, perhaps the chief credit may be given to newspaper publicity and to the personal efforts of the district attorneys of many counties in the State. In the latter part of July letters were addressed to all the district attorneys in the State, except those of counties included in Greater New York, of the following tenor:

July 29, 1915

Hon. JAMES T. WARD, *District Attorney of Allegany County, Wellsville, N. Y.:*

DEAR SIR.—As district attorney you are acquainted with the importance of the complete and correct registration of births. The information, especially with regard to age, based on such records is indispensable for school, labor, legal and judicial purposes. I inclose copy of the law, also copy of leaflet, "Information for Physicians," in which you will note the requirement (Sec. 382) that the birth of each and every child born in this State shall be registered within five days after the date of each birth, also Sec. 393 — the duty of the local registrar to report violations of the law including delay in filing and the duty of the State Commissioner of Health to secure the thorough and efficient execution of the law with the aid of the district attorney of each county when necessary.

The interval for filing births (5 days) is a reasonable one. The law has now been in force since January 1, 1914, notwithstanding which there are each month many apparent violations of the law in this State. The requirement as to date of filing is not a mere technicality, because, unless it is thoroughly enforced as the law requires, some births will escape registration and the

Digitized by Google

prompt return and compilation necessary for sanitary use in the prevention of infant mortality by this Department is interfered with.

I accordingly desire to ask your cooperation with this Department for the purpose of thorough enforcement of the law and at the same time avoiding so far as possible any unnecessary prosecutions. The penalty for first offense, however, is small — only five dollars,— and where a birth is not registered or a physician continues to fail or neglect to file births promptly, it should be enforced. I inclose list showing names and addresses of physicians who have apparently failed to comply with the law as indicated by examination of the returns for May, 1915. They have all been notified by this Department. Should they continue to file late reports, I shall appreciate a notice or warning from you to the effect that the law must be strictly complied with. In the meantime any general notice or caution such as you can conveniently give either through the press or directly may be of service. The work of enforcement of this law is difficult and can only be successfully accomplished by the hearty cooperation of all authorities charged therewith. I should be glad to hear from you, therefore, as to any suggestions and shall appreciate your active interest in the systematic and thorough enforcement of this important statute.

Yours very truly,

HERMANN M. BIGGS,
Commissioner of Health,

By CRESSY L. WILBUR,
Director, Division of Vital Statistics

The response from the district attorneys of the State was very cordial. In the majority of cases the matter was taken up at once with the delinquent physicians or midwives and in some cases, as for example, in Orleans county, special efforts were made by the district attorneys through the press to call the attention of physicians, midwives and undertakers most emphatically to the fact that the law would be enforced. Below may be found a legal notice published in Orleans county to that effect:

Digitized by Google

NOTICE.

To all local Health Officers, all Physicians, Midwives or persons acting as midwives, the father, mother, or householder or owner of premises where any birth occurs, or manager or superintendent of public or private institutions where any birth occurs in the county of Orleans, N. Y.:

You will take notice that section 382 of the Public Health Law of the State of New York provides "That the birth of each and every child born in this state shall be registered within FIVE DAYS after date of birth, and a certificate of such birth filed with the register of the Health District." Any violation of the Public Health Law is declared to be a misdemeanor and upon conviction for first offense shall be fined not less than $5 nor more than $50 and for each subsequent offense not less than $10, nor more than $100, or be imprisoned in the county jail not more than 60 days, or both fine and imprisonment.

YOUR ATTENTION IS DIRECTED TO CHAPTER 619 OF THE LAWS OF 1913, WHICH PLEASE READ CAREFULLY AND FOLLOW STRICTLY. ANY VIOLATION OF THE PUBLIC HEALTH LAW WILL BE PROSECUTED. This notice is given by recommendation of the State Department of Health.

JOHN C. KNICKERBOCKER,
District Attorney Orleans County, Albion, N. Y.

The newspapers throughout the State — both rural and city papers — gave much space to the importance of the requirement and the result is apparent in the marked diminution of delinquent returns, although they still remain far too numerous.

In addition to the efforts within the State, some valuable help has been received from government authorities. A meeting of district attorneys of counties adjacent to Albany was called at the State Health Department and the Federal authorities, being advised of the action, sent telegrams on the subject as follows:

(a) *From the Surgeon General of the United States Public Health Service:*

WASHINGTON, D. C., *August* 2, 1915

DR. LINSLY R. WILLIAMS, *Deputy Commissioner of Health, Albany, N. Y.:*

Wish to express my sincere commendation of the active measures being taken by your Department in the enforcement of

Digitized by Google

your Vital Statistics Law, particularly the efforts you are making to secure prompt and complete registration of all births. The registration of all births is necessary to protect the civil and social rights of the child and future adult; immediate registration is necessary for complete registration; delayed registration means incomplete registration, the greater the delay the greater the proportion of births forgotten or for other reasons not registered.

RUPERT BLUE,
Surgeon General

(b) *From the Director of the United States Census:*

WASHINGTON, D. C., *July* 31, 1915

DR. LINSLY R. WILLIAMS, *Deputy Commissioner of Health, Albany, N. Y.:*

Before New York could be admitted to the contemplated registration area for births, it would be absolutely necessary that complete birth certificates be filed with the local registrars within the time prescribed by law. With accurate birth registration infantile mortality can be measured. Complete and satisfactory birth records will add to the value and prestige of the state.

SAM. L. ROGERS,
Director

(c) *From the Acting Chief, United States Children's Bureau:*

WASHINGTON, D. C., *August* 2, 1915

DR. LINSLY R. WILLIAMS, *Deputy Commissioner of Health, Albany, N. Y.:*

Immediate registration of all births is essential to prevent unnecessary deaths of babies. Unless all births are registered at once, infant welfare agencies may not learn of a birth of a baby under adverse conditions until too late to be of any assistance to that baby. Thorough and uniform enforcement of law is necessary if a city is to derive full profit from birth registration as an aid in saving lives of babies.

LEWIS MERIAM,
Acting Chief, United States Children's Bureau

Digitized by Google

In accordance with your direction, the returns will be examined each month in order to observe whether the certificates are filed in compliance with the requirements of the law. Physicians and midwives will be notified by registered mail, with return receipt requested, as to any delinquency and offered an opportunity to afford a substantial explanation. In default of a satisfactory explanation or of reply to inquiry, cases will be referred to the district attorneys of the several counties ten days after the return of registered receipt, with the request that they "shall forthwith initiate and promptly follow up the necessary court proceedings" and report the date of action and amount of fine imposed. In addition to the card record of delinquents, a book register is kept in which the particulars in regard to each case are recorded, including the final disposition and imposition of fine. The full data in regard to these cases, with the results obtained by each district attorney with respect to the number of cases handled, promptness of action, and results of prosecution, will be included regularly in the annual reports.

In view of the great importance to the people of the State, and furthermore the National importance — an example of the complete and thorough enforcement of vital statistics law as afforded for the first time in the history of the United States, it is believed that the efforts of the Department to secure such complete enforcement will be cordially supported by the people of the State, and more particularly by the entire medical profession, as soon as they comprehend the necessity of prompt and effective action.

As neither New York nor any other State in this country has ever heretofore actually enforced a vital statistics law (or any other general public health or social service law of wide application), some information in regard to the methods adopted by the Department of Health for the present successful enforcement of the New York State Vital Statistics Law may be of interest.

At the outset it is assumed that all concerned — physicians, midwives, undertakers, local registrars, district attorneys, and magistrates — desire to perform their full duty under the law of the State; and that any apparent violations of law are due to carelessness or inadvertency rather than to any deliberate intention to violate the law, thereby purposing to work an injury, perhaps

Digitized by Google

irreparable in later years, upon the persons affected by the records, who have a right to expect that the full registry of vital events required by law has been performed. The Department cannot accept, however, any evidence as to the unintentional character of violations of law, even if committed in sheer ignorance of the requirements of the statute, as a sufficient reason why the reasonable penalty of the law should not be enforced in each and every case of violation. The results of unintentional neglect may be as serious as if the failure to register a birth or death at the place and within the time required by law were premeditated; the penalties provided for violation of law are not excessive, and either through the lawful discretion of the magistrate or the personal offer of the Commissioner, the utmost safeguards are provided so that no actual hardship shall be incurred. But nevertheless, and the most ample experience of the worthlessness of the attempts to "enforce" such laws without actually enforcing them in every case fully demonstrates, the only way to secure the "uniform and thorough execution of the provisions of this article in every part of the State," as required of the State Commissioner of Health by law, is to employ the reasonable penalties and means provided in the law itself for its enforcement. No attempt has been made to secure excessive or repeated fines, and every opportunity has been offered physicians, midwives, and undertakers to present substantial explanations, if any, as to why the law should not be enforced in any specific case. In not one single case, so far as the Department is concerned, has there been, or will there be, any partiality or discrimination for or against any person concerned in an apparent violation of law.

By far the largest number of cases of apparent violations of law appear in relation to physicians, as has been previously shown as the result of the actual count of violations for certain months (page 314). (It should be remembered, however, that there are more physicians than midwives or undertakers, hence the rate of violations does not appear from the gross numbers.) The most important problem, therefore, was to secure the infliction of the penalty of the law upon each physician who violated it. The following reduced fac-similes of the blank employed for the first letter of inquiry to physicians will indicate the routine procedure of the Department:

Digitized by Google

Form VS No. 160. 12-14-15-2000 (21-12767)

CASE_____.

Public Health Is Purchasable. Within Natural Limitations Any Community Can Determine Its Own Death Rate

HERMANN M. BIGGS, M. D.
COMMISSIONER
LINSLY R. WILLIAMS, M. D.
DEPUTY COMMISSIONER
DELANCEY K. JAY
SECRETARY

DIVISION OF VITAL STATISTICS

CRESSY L. WILBUR, M. D.
DIRECTOR

NEW YORK
STATE DEPARTMENT OF HEALTH
ALBANY

DEAR DOCTOR:

I inclose Physician's Pocket Memorandum of Births Registered, which I hope will be a useful reminder as to the prompt registration of births; also a marked copy of the Vital Statistics Law, and Official Notice relative to its uniform and thorough enforcement. Please examine them carefully.

The State Department of Health is prosecuting each and every undertaker who violates the law by interring or removing a dead human body without a permit. It is immaterial, except as affecting the amount of the fine, whether such violation was intentional or not. *Is not this right and the plain duty of the Department?*

We shall also prosecute each and every midwife who violates the law by not filing birth certificates or who files them later than the law requires. *Is not this proper?*

You would not have me discriminate, I feel sure, against or in favor of the medical profession in the performance of this plain duty.

I regret to say that there appear to be one or more violations of law on your part, as listed below. Please examine the list and if there is any error advise me at once. Also inform me if there is any *substantial reason* why such cases should not be referred at once to the District Attorney of your county for the prompt legal action which he is required by law to take.

If you advise me that you will plead guilty and pay the fine when imposed, I will recommend that the minimum penalty, which is, for a first offense, only $5, and for a second offense $10, be imposed.

Kindly let me hear from you at once. Cases will not be referred until ten days from return of registry receipt.

Very truly yours,

HERMANN M. BIGGS,
Commissioner of Health

By

Director, Division of Vital Statistics

Reference No.	*Surname*	*Date of Birth*	*Date Filed*

[OVER]

Digitized by Google

MEMORANDUM ON THE ENFORCEMENT OF THE VITAL STATISTICS LAW

The Vital Statistics Law plainly and unmistakably says: "The birth of each and every child born in this State shall be registered within five days after the date of each birth." Further: "The State Commissioner of Health is hereby charged with the thorough and efficient execution of the provisions of this article in every part of the State." Also: "When he shall deem it necessary, he shall report cases of violation of any of the provisions of this article to the district attorney of the county, with a statement of the facts and circumstances; and when any such case is reported to him by the State Commissioner of Health, the District Attorney shall forthwith INITIATE AND PROMPTLY FOLLOW UP the necessary court proceedings against the person or corporation responsible for the alleged violation of law."

The State of New York has endeavored to procure complete registration of all births of children since 1847; the result has been failure; *many* thousands of births are unregistered because physicians and midwives have failed to comply with the law. Over one thousand physicians and over one hundred midwives violated the law with respect to prompt filing of birth certificates in the single month of May, 1915. Many hundreds of requests for certified copies of births, required for School, Labor, Inheritance, Passport, and other purposes, cannot be granted by the Department because certain physicians or midwives *neglected* their duty in years gone by. The Department proposes to avert this unfortunate condition for children born in the State of New York during 1915 and subsequent years by thoroughly enforcing the LAW as it is written. Incidentally, this is also necessary in order that the State may be admitted into the REGISTRATION AREA FOR BIRTHS, which will be formed by the United States Census Bureau beginning January 1, 1916, and which will include only those States which enforce their laws both (1) with respect to filing all births and (2) with respect to filing them within the time required by law. *Please aid the State to become among the foremost in the Union in this important matter.*

SOME "REASONS" ALLEGED FOR FAILURE TO FILE BIRTHS PROMPTLY AS REQUIRED BY LAW

"Nothing extenuate, nor set down aught in malice"

Accidental, not intentional [All violations are assumed by the Department to be "unintentional"; the effect is precisely the same, however, as if premeditated.]
Bookkeeping, does his own
Busy, very
Careless, somewhat, because law has not been strictly enforced
Charity case, hard to be fined for
Dated within limit as shown by stub [The Local Registrar's date of filing is by law prima facie evidence; if incorrect, proof thereof will be gladly considered.]
Desk (table, etc.), laid certificate on
Disgrace of court record, deplores
Distance, ____ miles
End of month, local registrars are entitled if fined by [Local Registrar liable to prosecution if so advising.]
End of month, always reported by
End of month, no need for filing earlier than
Needs law entirely, some might, if fined for filing late certificates [The Department will assume the risk; there are at least twelve (12) effective methods of detecting failure to file births, and the *maximum penalty of the law* — $50 to $100, with imprisonment — will be asked in any case of *deliberate and continued violation of law*. See also Section 391 of the law.]
Extenuating circumstances (generally)
First time ever charged
First offense, harsh treatment for
Forgot, mislaid, overlooked, etc.
Ignorant of law
"Influence," personal, political, etc., pleaded
Local registrar, did not know [County Roster supplied on request.]
Local registrar, mailed to wrong
Loyal support to all public health work.
Mailed within limit; probably miscarried [See back of birth certificate.]
Medical Society, officer of
Mind, many other things on
Mistaken, all liable to make
NAME OF CHILD, waited to get [Duty of Local Registrar, not of physician.]
Never again, since attention called
Nurse, wife, son, or other person, promised, etc.
Overcoat, other garment, left in pocket of
Parents, failed to give name
Parents, failed to report
Practice, many years of, without criminal record [There is no moral turpitude attached to a conviction for failure or delay in filing a birth certificate.]
Premeditation, none
Procrastination, habit of
Prosecution, does not desire
Prosecution, would entail disgrace [See "Practice" *supra*.]
Public spirited, very
Report, never failed to make
Spirit of law, not mere letter, should be regarded [The letter is explicit and expresses the spirit exactly; otherwise there would be as many "laws" as physicians and midwives desiring to be excused.]
Slow, simply, at times
Support law, earnest desires to
Technical violation of law, merely a [A very common excuse; the law provides a merely technical penalty, with no implication as to intentional wrong-doing, which is necessary to eliminate such technical violations, the aggregate number of which seriously interferes with the efficiency of registration.]
Time, passage of, not realized
Trouble, too much, to comply with numerous laws
Ultimate purpose of law better promoted by leniency in *this* case
Work, rushed with

☞ All the above reasons or explanations are lawful so far as warranting the Department in deviating from its plain duty under the law, namely, to refer each and every case of actual violation of the law to the District Attorney for action. They will be considered, however, together with others of similar character, as a basis for recommending a low or minimum penalty, especially for the first offense, in cases where the physician states that he will plead guilty and pay the fine when imposed.

SOME ADDITIONAL REASONS FOR ENFORCING THE LAW

Every intelligent physician knows the importance of complete and correct registration of vital statistics, and should understand that this can only be accomplished by *thorough and uniform enforcement* of law. The sanitary uses of early information concerning births are also well known. Hence it is unnecessary to recapitulate the arguments and reasons often stated. The action of the State of New York in actually enforcing its State Law is meeting with wide commendation. Secretary of Commerce Redfield says: "I am greatly pleased with the advance step which has been taken by the State of New York for the betterment of the registration of births and deaths and to know that the cooperation of the Bureau of the Census has been of so much assistance." The Children's Bureau, Public Health Service, and all branches of the Federal Government cordially commend the action of New York; other States will soon follow and begin to enforce their laws thoroughly. The great importance for infant mortality is indicated by the following Resolution adopted by the Sixth Annual Meeting of the American Association for the Study and Prevention of Infant Mortality, Philadelphia, November 20-22, 1913:

Whereas; the majority of the deaths of infants occur during the first few weeks of life; and
Whereas; efforts to reduce infant mortality depend largely for success upon bringing the child under proper supervision and care as early as possible;
Whereas; a prompt reporting of births is therefore essential as a basis for successful efforts to reduce infant mortality; therefore

BE IT RESOLVED; THAT THE AMERICAN ASSOCIATION FOR THE STUDY AND PREVENTION OF INFANT MORTALITY URGE EACH STATE AND MUNICIPALITY TO PASS LAWS PROVIDING FOR THE REPORTING OF BIRTHS WITHIN FIVE DAYS, AT THE MOST, FROM THEIR OCCURRENCE, AND FURTHER PROVIDING ADEQUATE PENALTY FOR FAILURE TO OBSERVE THIS LAW.

Digitized by Google

The first letters sent of this tenor were multigraphed, with the physician's name and detail of apparent cases of violation of course individually written. Each went by registered mail so that a reply was received in each case; heretofore a considerable proportion of inquiries as to apparent violations elicited no response. Out of the many hundreds of letters sent to individual physicians, in not a single instance was a discourteous reply received from a physician (one insolent letter was written by a Local Registrar to explain that the physician was not at fault) nor was there any criticism whatever as to the language of the communication or the propriety of the attitude of the Department in undertaking the impartial and nondiscriminatory enforcement of the law. Not a single physician felt that discrimination should be exercised for or against the medical profession while midwives and undertakers were undergoing the penalties provided for violation of the law. Hence the blank was printed as a regular or routine form of the Department, and its continued use is bringing the most satisfactory results.

Failure to secure (1) complete and (2) prompt registration of all births, within the time prescribed by law, and with actual infliction of the penalty provided by the law for each case of failure to comply strictly therewith, depends upon several factors;

(1) The law itself. The law must be properly constructed for efficiency, with reasonable requirements and with reasonable penalties, together with the necessary agencies for their enforcement in each case of violation. The Vital Statistics Law of the State of New York, which is practically the Model Law recommended by the United States Bureau of the Census for general adoption, fully answers these requirements.

(2) The attitude of the State Department charged with the enforcement of the law. Only by plain neglect of duty can such Department fail or neglect to employ all the agencies at its disposal, including the penalties of the law and the aid of the legal officers charged with duties thereunder, to procure the uniform and thorough enforcement of the law. If the State Department is that of Public Health, failure to do so would be especially culpable, because accurate vital statistics are known to be the absolutely indispensable foundation of all modern public health work.

Digitized by Google

(3) The aid of the District Attorneys or other prosecuting officers. This is also fully provided in the New York law, it being the duty of the District Attorneys to "initiate and promptly follow up" the necessary court proceedings in cases referred to them for action by the State Department of Health. This they have done, with few if any exceptions, and the maintenance of a complete record of cases will show any lack of cooperation in this respect.

(4) Full understanding by magistrates of their relations to the law and the necessity for its strict enforcement, with actual payment of the fines imposed — except in case of hardship. So far there have been only two instances of suspension of sentences after the infliction of fines, a full statement concerning which may be found in the following correspondence:

NEW YORK STATE DEPARTMENT OF HEALTH,

ALBANY, *January* 7, 1916

HON. JOHN C. BOSTELMANN,

City Judge, Corning, N. Y.

MY DEAR JUDGE:

I have been advised that in the disposition of the cases against Drs. Hutton and McNamara, brought on by this Department under the Vital Statistics Law, fines were imposed and subsequently remitted. This is but the second instance in which sentence has been suspended or fine remitted since the recent effort of this Department to thoroughly enforce this important law, and I desire to ask of you a statement, which may be included in the Annual Report of this Department, giving the reasons for said remittance of fines. It is exceedingly important, as you will observe by the Official Notice, copy of which I enclose, including the Commissioner's letter of November 6 and a letter of the Director of the Census of November 12, that this law be enforced uniformly without discrimination or partiality of any sort in each part of the State coming under the jurisdiction of this Department. I inclose also a "Memorandum on the Enforcement of the Vital Statistics Law" which I think may be of interest, especially the list of reasons condensed from a very much longer list received from the numerous physicians against whom

Digitized by Google

cases have been filed, as to why in their judgment the penalty of the law should not be enforced. One of these, possibly the most important because it may perhaps affect to some extent the judgment of the court as well as that of the district attorney, and the physicians, midwives or undertakers themselves, is the belief that the departure from the requirements of the Vital Statistics Law is merely of a technical nature and therefore demands no actual imposition of penalty. This is not true because the departure from or violation of the provisions of law is in itself a matter of great importance taken collectively in vitiating the vital statistics of the State and the accuracy of the records of births and deaths which, as you know, are very essential for legal purposes. It is true that in an individual instance it may seem a trifle that the physician fails or neglects for a few days to file a certificate. If, however, we can enforce the law as it is written — and you will note that the law makes it a point that "the birth of each and every child born in this State shall be registered within five days," then our statistics of births will be absolutely correct and the State of New York will for the first time in the history of this country have thoroughly dependable vital records. It is not, therefore, a point of minor importance and should not be considered a mere technicality that a physician or midwife fails to comply with this law, and if said physician or midwife does fail, then he should be visited with the reasonable penalty of the law, namely, for the first offense, the minimum fine of five dollars ($5), and he should pay this fine. If he does not pay this fine when perfectly able to do so, even though he may be known in court as a deserving and well-meaning person, it is evidently a discrimination as compared with the actual infliction and payment of fine perhaps by some midwife or other person not as well able to do so. Evidently, also, if the fines in cases of violation of this law were suspended or remitted to any considerable extent, the law itself would become practically nullified and a dead letter.

It is the purpose of the Department to enforce the law with the utmost impartiality and absence of discrimination, and in this purpose we believe that we can count fully upon the aid and cooperation of the district attorneys and of the courts of the State. Wherever in the judgment of the Court it appears that the actual infliction of the fine and the payment thereof by the defendant

Digitized by Google

would work a personal hardship upon him or her, then it is, of course, in the discretion of the Court, and extremely desirable, that the penalty should be remitted and the fine suspended. In fact, as you will observe in the letter of the Commissioner, he himself offers personally to pay the fine in such cases, although this, of course, would not be necessary if the Court exercised its discretion. Except for this reason, however, and the infliction of actual hardship, it would seem that the suspension of sentence and the remission of fine in the case of a person perfectly well able to pay the same would amount to real discrimination, and if continued, practically to nullification of this very important law.

I hope, therefore, that you will kindly favor me with a full explanation so that it may be printed in connection with the Annual Report of this Department, and a copy transmitted to the Director of the Census so that he will understand the reasons.

Yours very truly,

CRESSY L. WILBUR,
Director, Division of Vital Statistics

In reply a courteous letter was received from Judge Bostelmann under date of January 10, 1916, as follows:

HON. CRESSY L. WILBUR,
Director, Division of Vital Statistics, Albany, N. Y.

MY DEAR SIR:

I have your letter, with request, of January 7, 1916, and in complying with the same, I submit the following:

The District Attorney appeared before me with the two doctors in question and they waived the filing of regular informations *at the request of the District Attorney.* They appeared voluntarily and on being asked to plead, asked to be heard before pleading, and each doctor fully explained to me the circumstances causing the delay in filing their certificates within the five days.

We have a large county and especially the Town of Corning in said county is severed by the City of Corning, so that a doctor might be called at one end of the town to an emergency case and then be compelled to drive miles to file his certificate.

Digitized by Google

The two doctors in question are eminent in their profession and would not violate a law under any circumstances.

In the case of Dr. McNamara the facts were as related. In the case of Dr. Hutton, who had some important cases at the Corning Hospital, he made out his report within due time but his assistant or office attendant placed some other papers over the certificate during the doctor's absence and it was not discovered until the desk was rearranged, which was after the five days had expired. These facts were brought out at the preliminary hearing before me. Neither doctor wished to plead guilty excepting in a technical way and as your letter in a footnote asked me to avoid unnecessary publicity, I asked them to plead guilty, which was done. I thereupon fined them and they would have paid the fine if I had insisted but inasmuch as the Department of Health had obtained a conviction against both doctors, I used my discretion and remitted the fines.

Hoping this is satisfactory, I remain,

Yours very truly,

JOHN C. BOSTELMANN,

City Judge of Corning, N. Y.

The first case of suspension of sentence was that of Dr. John C. Thompson of Buffalo. A letter identical with that sent to Judge Bostelmann elicited the following response:

CITY COURT OF BUFFALO

William P. Brennan, *Chief Judge*

Peter Maul,
Albert A. Hartzell
Thomas H. Noonan, } *Associate Judges*
Patrick J. Keeler,
George L. Hager,

January 14, 1916

DR. CRESSY L. WILBUR,

Division of Vital Statistics, State Department of Health, Albany, N. Y.

MY DEAR DOCTOR:

Your letter of the 6th inquiring why I suspended sentence on Dr. John C. Thompson of this city for failure to comply with the

Digitized by Google

Vital Statistics Law was duly received. I have been so busy in the trial of cases that I have not been able to give the matter attention before.

I appreciate as fully as anybody the importance of proper vital statistics but I am not especially impressed by your zeal in prosecuting a man for a technical violation of the law. In this particular case I happen to know Dr. Thompson to be one of the most reputable and reliable physicians in the city, a man just as anxious as you are to have correct vital statistics and who had always tried to live up to the law as he knew it. You would not have known he had violated the law if he had not filed his report a few days late. If he had not filed it at all he would never have been prosecuted except you stumbled upon the matter accidentally, and the very fact that he did report it shows that he had an honest desire to comply with the law. His explanation was that he had not been doing much of this work for some years past and that while he knew that the report had to be filed he did not know the time limit.

With all due respect to your Department and its excessive amount of red tape as long as I am judge of any court I am going to reserve to myself the right to dispose of these cases that come up as I think they ought to be disposed of.*

Very truly yours,

THOMAS H. NOONAN.

(5) Lastly, and underlying all efforts to enforce law justly, without partiality, and without personal discrimination, comes the understanding and support of the people of the State for the wise laws which their representatives have enacted. If a bad law, then enforcement should cause its repeal; but if a good law — and the Vital Statistics Law is a law that enters most intimately into the protection of the men, women, and children of the State in practically every relation of life — then it should be enforced as it is written. Attempts to hinder it or hamper it in its thorough execution, or to "tinker" it with unnecessary and pernicious amendments — such for example as to make the date of reporting births fifteen instead of five days — should be given full pub-

* Note with proof.

Digitized by Google

licity; and the people of the State, the press, the medical profession, and all concerned, should support and *demand* the thorough and effective administration of the law, with infliction of the reasonable penalty of the law in each and every case of its violation. Thus, and thus only, will the vital records and the vital statistics derived therefrom become worthy of the State.

Work performed by the Division

The Division of Vital Statistics, besides the preparation of the annual reports and the monthly summaries for publication in the HEALTH NEWS, is a record office and is charged with the preparation of transcripts of births, marriages, and deaths for legal and other proper purposes. It may be suggested at this point that it would be desirable at the time of some future amendment to the Vital Statistics Law that special safeguards should be thrown around the consultation of vital records for improper purposes. This is not likely to occur in the State Department of Health but has occurred in local offices where the local registrars have felt obliged to permit the examination of the records for the preparation of advertising lists and the like, also in some cases for the obtaining of information that might have been detrimental to the individuals registered.

The general character of the routine work of the Division may well be summarized in a report of the work done during the fiscal year beginning October 1, 1914, recently prepared by Miss Humphreys, Secretary, and assistant to the Director, as a summary of the monthly reports:

November 13, 1915

DR. HERMANN M. BIGGS, *State Commissioner of Health, Albany, N. Y.:*

DEAR SIR.— In reference to the work carried on in the Division of Vital Statistics during the fiscal year beginning October 1, 1914, I beg to submit the following statements:

Five months out of the year we were successful in securing within the month reports from every registration district in the State, and able to include in the compilation for the bulletin one month returns from as many as 1,430 districts out of 1,441 with

Digitized by Google

date of closing on the 15th, the lowest number of districts included any one month during the year being 1,409 with date of closing on the 13th.

Over 1,292 letters were sent out to delinquent physicians, midwives and undertakers, and of 21 cases referred to district attorneys, 1 physician, 3 midwives and 3 undertakers pleaded guilty and paid the fine imposed.*

Seventy-six thousand seven hundred and four baby books were addressed and forwarded to mothers as taken from the birth certificates, 2,607 requests for certificates of registration of birth were received, and 2,566 issued.

The following corrections of records on file in the Department were received and entered:

Deaths, legal	358
Deaths, statistical	2,938
Births, legal	431
Births, statistical	146
Supplemental reports of births	5,607
Marriages, legal	4
Making a total of	9,484

All certificates of births dating from May 1, 1914, up to August 1, 1915, and those of deaths dating from August 1, 1914, up to August 1, 1915, were examined, arranged for the bindery and bound.

Since the installation of the punching and sorting machines about March 1 of this year, all 1914 births and deaths have been punched and sorted for tables for the annual report.

The index work of the Division up to the 1st of October, 1915, stands as follows:

1915 birth certificates carded to July, Niagara county, and cards verified to July, Cattaraugus county. Index cards for 1915 births sorted to July and cards for all 1914 stillbirths verified and sorted. Death certificates for 1915 carded to August, Westchester county, and cards verified to August, Orleans county. Index cards for 1915 deaths sorted to August. 1914 marriages,

* This was prior to the thorough enforcement of law beginning November 6, 1915.

Digitized by Google

with the exception of delays and Greater New York, carded to the fourth quarter, Schenectady county, and cards and certificates numbered and verified to second quarter, Niagara county.

The following certificates of births and deaths occurring during the year were recorded:

	Births	Stillbirths	Deaths
Filed with Department	98,725	4,085	69,608
Filed with New York City	142,029	6,520	75,098
Total State	240,754	10,605	144,706

These figures given, however, are exclusive of delays filed after January 1, 1915.

Requests for certified copies of records on file in the Department were received and transcripts issued as follows:

Births	170
Deaths	722
Marriages	70
Total	962

Also, the following statements of age for school and employment purposes have been furnished since January 1, 1915:*

School	45
Employment	202
Total	247

During the year correspondence was referred to this Division and disposition made of same in the following manner:

	Letters received	Letters answered	Letters filed	New letters written
Number	14,385	9,274	5,111	5,196
Monthly average	1,198	772	425	433

Respectfully submitted,

CRESSY L. WILBUR,

Director, Division of Vital Statistics

*Comparatively few statements of age are furnished by the State Health Department; they are usually obtained directly from the local registrars.

Digitized by Google

Important blanks and instructions

The installation of the new Vital Statistics Law beginning January 1, 1914, necessarily led to a revision of the blanks formerly in use and also to the preparation of some important blanks not heretofore used in this State. An excellent opportunity was therefore presented for the construction of a model series of blanks and the opportunity was taken by the Director of the Division — at that time also Chief Statistician for Vital Statistics for the United States Bureau of the Census, on leave — to send out to the registration officials of other states samples of the new blanks prepared, together with a descriptive circular copy of which is given below:

DEPARTMENT OF COMMERCE

BUREAU OF THE CENSUS

DIVISION OF VITAL STATISTICS

WASHINGTON, *July* 25, 1914

DEAR DOCTOR.— While on leave from the Bureau of the Census and Director, Division of Vital Statistics of the Department of Health of the State of New York, I have had occasion to prepare some new registration blanks in which I think you will be interested, and accordingly inclose samples of Form VS No. 4, Report on Violation of Vital Statistics Law, and of Form VS No. 130, Certificate of Registration of Birth. A copy of the latter, properly filled out, is to be sent to each mother in the State, together with the Baby Book now in preparation, as soon as the report of her child's birth is filed and numbered. I also inclose copy of the new General Public Health Law (Chapter 559) and of the new Vital Statistics Law (Chapter 619), each of which went into effect on January 1, 1914.

You will note the close interdependence of these laws. The Vital Statistics Law is based entirely on the Model Law, recommended by the Bureau of the Census, with some slight changes made necessary by the methods of legislation in this State and some improvements, notably the second paragraph of section 391. The effective aid of the sanitary supervisors is of great value.

Digitized by Google

After an experience of several months in the practical administration of this law, I am thoroughly satisfied with it and know of no essential particular in which I would recommend any change.

The following classification of blanks used for the collection of returns may be of interest:

A. FIELD BLANKS

(1) *General Purposes*

1 Inventory and Requisition.
2 Monthly Statement Card.
3 Postal, "No Births, No Deaths."
4 Report on Violation of Law [blue blank].
5 Vital Statistics Law.
6 Instructions for Registrars.
7 Return Envelope.
8 County Roster.
9 Information for Physicians.
10* Paster for Register (giving District Number).
11* Given Name of Child *Not* Recorded.
12* Poster — Official Notice (see p. 313).
12a* Receipt for (12).
13* Leaflet — Official Notice.

(2) *Births*

30 Birth Certificates, loose.
30b Birth Certificates, booklet.
31 Supplemental Report Name.
32 Information for Midwives.
33 Correction of Birth [red blank].
34 Record of Births, sections of 100.

(3) *Deaths.*

60 Death Certificates, loose.
60b Death Certificates, booklet.
61 Burial, Removal Permits, pads.
62 Transit Permits, pads.
63 Information for Undertakers.
64 Correction of Death [red blank].
65* Tuberculosis Report to Health Officer.
66* Record of Deaths, sections of 100.

B. OFFICE BLANKS

(1) *General Purposes*

101 Monthly Check List.
102 Compiling Slips.
103† Circular, Special Report of Registrar.

* Issued since preparation of original list.
† Subsequent issues, 103b, 103c, and 103d (November 26, 1915), are employed for the purpose of learning exact local conditions and training local registrars in the performance of their duty.

Digitized by Google

104 Postal, "Too Early".
105 Postal, "Late".
106 Postal, "Returns Not Received".
107* Circular — Appointment of Subregistrars.
108* Postal, "No Nos., Wrong Nos."
109* Postal, "Previous Certificates."
110* ?
111* Bulletin Table 1, Cities.
112* Bulletin Table 2, Counties.
113* Shipping Envelope, Registration Blanks.

(2) *Births*

130 Certificate of Registration of Birth.
131* Envelopes for Baby Book.
132* Slip for Baby Book.
133* Certified copy of Birth Record.

(3) *Deaths*

160 Correction of Cause of Death.
161* Certified Copy of Death Record.

The advancement of vital statistics is largely dependent upon the exchange of ideas by those engaged in practical registration work, hence I shall be greatly obliged for any criticisms or suggestions and shall feel indebted to you if you will kindly send me, from time to time, any new blanks, instructions, or information concerning methods of work.

Very respectfully,

CRESSY L. WILBUR, MD.,
Chief Statistician

Among the most important blanks which are new in the practice of vital statistics in this country but which have been found very satisfactory in use are forms VS No. 33 and VS No. 64 for the correction of births and deaths, respectively. Heretofore there has been no systematic procedure for the strict legal correction of erroneous data upon birth and death certificates. The purpose of the blanks in question, copies of which as well as of any other blanks in the list will be sent upon request, has been to systematize this matter so that errors in the original certificates might be as carefully and legally corrected as if the original certificates had been properly prepared.

* Issued since preparation of original list.

Digitized by Google

Urgent need for (a) binding of records, (b) printing indexes, and (c) proper vault for safe preservation against fire of the invaluable and irresplaceable vital records of the people of the State.

The most important function of the State Registration Office is the *safe preservation of the original records* of births, deaths, and marriages, properly bound and protected from all risk of destruction by fire or other causes. In this connection I may refer to a letter which I recently submitted to you on this subject as follows:

November 13, 1915

DR. HERMANN M. BIGGS, *State Commissioner of Health, Albany, N. Y.:*

DEAR DOCTOR.— In transmitting to you the statement of work during the last fiscal year in the Division of Vital Statistics as requested by Mr. Jay, I desire to add a general statement and recommendation concerning one of the most important functions of the State Health Department in its capacity as custodian of the vital records of the people of the State of New York.

As you are aware, the records of births, deaths and marriages which have been returned to this Department from the year 1880 to the present time have never been bound and thereby placed in proper condition for safe and permanent preservation until the binding of the returns of births and deaths beginning January 1, 1914. There is, therefore, a vast mass of valuable records requiring binding as a first step toward safe and permanent preservation. In order that the returns may be prepared for binding it will be necessary that the certificates, which are now tied up in bundles and stored in file cases, should be carefully examined, arranged in proper order if any disarrangement has taken place, all papers attached — such as legal or statistical corrections — duly entered on the original certificates, and the papers themselves, which do not admit of satisfactory binding, be removed and bound in separate volumes so that they can be referred to if desired.

This necessitates considerable labor, will require the services of a number of trained clerks working under the direction of Miss Gibb, and should be begun and completed for the entire returns now in the office rather than, in my judgment, by piecemeal. It is true that we could begin with the present year and, working

Digitized by Google

backwards — adding some additional appropriation each year to the amount required for the Department — be able after a number of years — possibly ten — to have the records in satisfactory shape and bound; but it is not fair, I submit, that such cost should be charged to the current cost of running the Department as it would be if it were done in this manner. I therefore recommend that an effort be made to obtain a sufficient sum to complete the job at once, procuring the employment of necessary clerks for this purpose.

In connection with the work of binding I believe it would be feasible and desirable to establish a bindery in the Department, as is done in New York City, so that these records, which could not be replaced if destroyed, need not be risked by exposure in sending them to the State printing office for binding.

Another feature which should be attended to is provision for printed indexes of all the records — marriages, births, and deaths — from the beginning to the present time. For the latter years they are in the form of card indexes which are very bulky and which may be disarranged, thereby greatly destroying their value. It would be possible for a person not employed in the Department but permitted to consult these index cards to drop a box on the floor or otherwise disarrange them and to replace the same so that subsequent searches for names of decedents, children born, or persons married would be in vain. The only safe procedure is to have several bound copies of a printed index, either for each year or for a series of years. Such copies could, perhaps, be distributed in several parts of the State so that search could be made to ascertain whether certificates were on record here without correspondence; also copies could be permanently preserved for the use of genealogists and others, perhaps one or two hundred years hence, by the Department of Education. As a practical method of making searches, however, it is far superior to the present method of consulting cards, as I am informed by Dr. Guilfoy, Registrar of Records of New York City, and by Dr. Byrne, Borough Registrar of Brooklyn. This method, also, is employed in Pennsylvania, Ohio, and practically for all large offices in this country. It is expensive but would result in economy of time in making searches and in great economy of space in storing the cards.

Digitized by Google

I believe that it will be feasible to have the index printed by means of the monotype, one or more keyboards being employed in the Department, so that the index cards need not be sent out of the office where they are required for reference and, therefore, need not be subject to the loss which might arise from causes incident to their transmission to the State printing office. The operation of running a Lanston monotype keyboard is just as simple as running a typewriter and we could, perhaps, use typewriters [persons] now in the employ of the Department for this purpose, arrangement being made for casting either at Albany or New York. [The rolls could be preserved, moreover, as a permanent record; additional copies could be cast and printed at any subsequent time.]

PRESERVATION FROM FIRE

The most important thing, however, to be considered, and one which I had the honor to bring to your attention last year as the most essential requisite appertaining to the position of custodian of these vital records, is to insure their absolutely safe preservation from possible fire or other source of destruction. The records are not now in fireproof cases or in a fireproof building, as was demonstrated by the destructive fire of some years ago in the west end of the Capitol. I regard it as absolutely necessary and of the utmost importance that a secure vault be provided for this purpose. Such vault might perhaps, although I do not believe it feasible, be constructed in the basement of the Capitol, and suitable elevators be provided so that the records required might be readily carried to the office rooms on the upper floor. I believe, however, that it would be more practicable and economical to have a separate building constructed for this purpose on some suitable site.* Such a building might be modeled in part on the Brooklyn Borough office, which is, I believe, the only satisfactory office for this purpose in the United States. This consists essentially of an inner vault, fireproof and entirely surrounded by an open space between vault proper and the walls of the building. No gas, water or other piping enters the vault, and it is protected by fireproof doors and furnished with a satisfactory ventilating system.

* Or a larger building might also provide for the housing of state offices now in rented quarters

Digitized by Google

The cost of such changes in methods and the provision for the proper building of vault, with perhaps a building for the purpose, would, of course, be far beyond the ordinary resources of the Department, and I therefore suggest that the matter be submitted to the Governor and Legislature with request that a committee be appointed to survey the condition of the records, report upon the necessity for their permanent preservation, and especially for safekeeping from danger of fire; that such committee visit the record offices of Brooklyn and of the State of Pennsylvania at Harrisburg, and report either for the construction of proper vaults in the basement of the Capitol or for the construction of vaults in a building on a separate site or elsewhere.

Very respectfully,

CRESSY L. WILBUR,
Director

Digitized by Google

STATISTICAL TABLES

BIRTHS, STILLBIRTHS, DEATHS (AND CAUSES OF DEATHS) IN THE STATE OF NEW YORK: 1914

COMPARATIVE DATA FOR PREVIOUS YEARS: 1898 TO 1913. STATISTICS FOR NEW YORK CITY SUPPLIED BY THE BUREAU OF RECORDS, DEPARTMENT OF HEALTH. RATES ARE BASED UPON POPULATIONS UNIFORMLY ESTIMATED AS OF JULY 1 OF EACH YEAR AND SUPPLIED BY THE UNITED STATES BUREAU OF THE CENSUS.*

* Prior to 1914 the original certificates were not returned to the State Department of Health from the cities of Albany, Buffalo, and Yonkers, hence the data for those cities as included in the reports of the State Department of Health were based upon the compilations made by the local registrars. The monthly compilations of causes of death, ages, etc., as made by city registrars (except for the cities of New York, Albany, Buffalo, and Yonkers) were revised in the Department by comparison with the original certificates and then used for the annual reports and monthly bulletins up to that for January, 1914. Beginning with January, 1914, all data, except that of New York city, presented in the monthly bulletins as published in the HEALTH NEWS are based on compilations from the original certificates.

Digitized by Google

LIST OF TABLES

TABLE — PAGE

1 — STATE OF NEW YORK: *Population, births, deaths, and marriages, with rates per 1,000 estimated population:* **1885–1914** 341

2 — STATE OF NEW YORK, NEW YORK CITY (SINCE FORMATION OF GREATER NEW YORK), AND REST OF STATE: *Population (also local estimate for New York City), deaths, and rates per 1,000 estimated population:* **1885–1914** 342

3 — STATE OF NEW YORK: *Births, by months, sex and color; also stillbirths:* **1914** 343

4 — STATE OF NEW YORK: *Deaths, by sex, color, conjugal condition, and general nativity:* **1914** 343

5 — STATE OF NEW YORK (EXCLUSIVE OF NEW YORK CITY): *Deaths, by color, general nativity, and conjugal condition, for each sex, by age periods:* **1914** 344

6 — CITIES OF NEW YORK: *Births registered (incomplete), deaths of infants under 1 year of age, and infant mortality:* **1914** (1913) 345

7 — STATE OF NEW YORK: *Births registered (incomplete), deaths at all ages, deaths of infants under 1 year of age (since 1904) and of children under 5, infant mortality, and per cent of deaths under 1 and under 5 to total deaths at all ages:* **1885–1914** 346

8 — NEW YORK CITY AND REST OF STATE: *Births registered (incomplete for Rest of State), deaths at all ages, deaths of infants under 1 year of age and of children under 5, infant mortality, and per cent of deaths under 1 and under 5 to total deaths at all ages:* **1905–1914** 347

9 — STATE OF NEW YORK: *Deaths, by months, according to the detailed International List of causes of death:* **1907–1914** 348

10 — STATE OF NEW YORK: *Deaths and death rates per 100,000 population from certain important causes of death (condensed list):* **1885–1914** .. 356

11 — STATE OF NEW YORK: *Deaths from cancer and other malignant tumors, showing organ or part of body affected according to the detailed International List:* **1914** 358

12 — STATE OF NEW YORK: *Deaths, by months, for important age periods and from important causes (condensed list); also living births and stillbirths:* **1914** 359

13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE (BY COUNTIES, CITIES AND VILLAGES OF 2,500 AND OVER, OTHER VILLAGES, AND TOWNS): *Deaths for important age periods and from important causes (condensed list); also living births and stillbirths:* **1914.** [*Deaths in State Institutions having as many as 20 deaths in 1914 separately stated.*] 362

14 — STATE INSTITUTIONS (EXCLUSIVE OF THOSE IN NEW YORK CITY): *Deaths for important age periods and from important causes:* **1914.** [*Statement of population July 1, 1914, and also July 1, 1915, in Note.*] 395

15 — CITIES OF NEW YORK: *Deaths for important age periods and from important causes; also living births and stillbirths:* **1914** 401

16 — STATE OF NEW YORK: *Deaths, by counties, for important age periods and from important causes; also living births and stillbirths:* **1914** 409

17 — STATE OF NEW YORK: *Births, marriages, and deaths, by counties, cities, villages, and towns:* **1914** 414

18 — STATE OF NEW YORK: *District numbers, population (U. S. Census, April 15, 1910), and deaths from important communicable diseases (chiefly), by counties, for each registration district (city, village, and town), with separate statement for all State Institutions:* **1914** 427

19 — STATE OF NEW YORK: *Population, at certain important age periods, by counties, for cities of 10,000 population and rural parts of counties:* **April 15, 1910.** [*Data supplied by the U. S. Bureau of the Census and heretofore unpublished for rural counties*] 480

Digitized by Google

Table 1 — STATE OF NEW YORK: *Population, births, deaths, and marriages, with rates per* 1,000 *estimated population:* **1885–1914**

YEAR	Population (as printed in reports)	Births*	Deaths*	Marriages	Rate per 1,000 Population		
					Births	Deaths	Marriages†
1885	5,609,910	63,536	80,407	24,409	11.3	14.3	4.4
1886	5,719,855	89,828	86,801	36,764	15.7	15.2	6.4
1887	5,831,947	102,038	108,269	44,438	17.5	18.6	7.6
1888	5,946,246	103,089	114,584	43,683	17.3	19.3	7.3
1889	6,062,764	114,804	113,155	50,960	18.8	18.6	8.4
1890	6,182,600	112,572	128,648	41,195	18.2	20.8	6.7
1891	6,316,333	125,909	129,850	51,458	19.9	20.5	8.1
1892	6,438,283	130,143	131,388	52,725	20.2	20.3	8.1
1893	6,537,716	136,297	129,659	52,805	20.8	19.7	8.1
1894	6,638,696	141,827	123,423	52,539	21.4	18.6	7.9
1895	6,741,246	142,311	128,834	59,059	21.1	19.1	8.7
1896	6,845,375	147,327	126,253	58,990	21.5	18.4	8.6
1897	6,951,111	144,631	118,525	57,530	20.8	17.1	8.3
1898	7,058,459	138,702	122,584	57,392	19.7	17.4	8.1
1899	7,167,491	136,778	121,831	61,167	19.1	17.0	8.5
1900	7,281,533	143,156	132,352	63,225	19.7	18.1	8.7
1901	7,434,896	140,539	131,461	65,216	18.9	17.7	8.8
1902	7,591,491	146,740	124,830	68,903	19.3	16.4	9.1
1903	7,751,375	158,343	127,602	73,011	20.4	16.5	9.4
1904	7,914,636	165,014	142,217	74,677	20.8	18.0	9.4
1905	8,081,333	172,259	137,435	78,261	21.3	17.0	9.7
1906	8,251,538	183,012	141,099	87,870	22.2	17.1	10.7
1907	8,425,333	196,020	147,890	92,421	23.3	17.6	11.0
1908	8,546,356	203,159	138,912	73,644	23.8	16.3	8.6
1909	8,699,643	202,656	140,261	80,090	23.3	16.1	9.2
1910	9,158,328	213,235	147,710	85,490	23.3	16.1	9.3
1911	9,372,954	221,678	145,912	86,463	23.6	15.5	9.2
1912	9,592,258	227,120	142,377	97,427	23.7	14.8	10.2
1913	9,712,954	228,713	145,274	92,343	23.5	15.0	9.5
1914	9,899,760	240,038	145,476	93,793	24.2	14.7	9.5

* Stillbirths excluded.

† Rate of *persons married*, perhaps the more desirable form of statement, is (approximately) double the rate of marriages shown.

Digitized by Google

Table 2 — STATE OF NEW YORK, NEW YORK CITY (SINCE FORMATION OF GREATER NEW YORK), AND REST OF STATE: *Population (also local estimate for New York City), deaths, and rates per* 1,000 *estimated population:* **1885-1914**

YEAR	STATE OF NEW YORK			REST OF STATE (NEW YORK CITY EXCLUDED)			NEW YORK CITY					
	Population (latest estimate by U. S. Census Bureau, 1914)	Deaths (State figures)	Rate per 1,000	Population (latest estimate by U. S. Census Bureau, 1914)	Deaths (State figures)	Rate per 1,000	Population (estimated by New York City Department of Health, 1914)	Deaths (City report)	Rate per 1,000	Population (latest estimate by U. S. Census Bureau, 1914)	Deaths (State figures)	Rate per 1,000
1885	5,550,690	80,407	14.5	.....	.....	.....	.....	.....	.....	.....	.....	.....
1886	5,642,720	86,801	15.4	.....	.....	.....	.....	.....	.....	.....	.....	.....
1887	5,734,751	108,269	18.9	.....	.....	.....	.....	.....	.....	.....	.....	.....
1888	5,826,782	114,584	19.7	.....	.....	.....	.....	.....	.....	.....	.....	.....
1889	5,918,813	113,155	19.1	.....	.....	.....	.....	.....	.....	.....	.....	.....
1890	6,013,722	128,648	21.4	.....	.....	.....	.....	.....	.....	.....	.....	.....
1891	6,140,294	129,850	21.1	.....	.....	.....	.....	.....	.....	.....	.....	.....
1892	6,266,866	131,388	21.0	.....	.....	.....	.....	.....	.....	.....	.....	.....
1893	6,393,488	129,659	20.3	.....	.....	.....	.....	.....	.....	.....	.....	.....
1894	6,520,010	123,423	18.9	.....	.....	.....	.....	.....	.....	.....	.....	.....
1895	6,646,582	128,834	19.4	.....	.....	.....	.....	.....	.....	.....	.....	.....
1896	6,773,154	126,253	18.6	.....	.....	.....	.....	.....	.....	.....	.....	.....
1897	6,899,726	118,525	17.2	.....	.....	.....	.....	.....	.....	.....	.....	.....
1898	7,026,298	122,584	17.4	3,770,149	56,254	14.9	3,272,418	66,294	20.3	3,256,149	66,330	20.4
1899	7,152,870	121,831	17.0	3,802,259	56,484	14.9	3,356,722	65,343	19.5	3,350,611	65,347	19.5
1900	7,284,461	132,089	18.2	3,836,038	61,219	16.0	3,446,042	70,872	20.6	3,448,423	70,870	20.6
1901	7,471,268	131,335	17.6	3,888,194	60,613	15.6	3,554,079	70,720	19.9	3,583,074	70,722	19.7
1902	7,658,075	124,830	16.3	3,940,350	56,699	14.4	3,665,825	68,112	18.6	3,717,725	68,131	18.3
1903	7,844,882	127,498	16.3	3,992,506	59,690	15.0	3,781,423	67,864	18.0	3,852,376	67,808	17.6
1904	8,031,689	142,217	17.7	4,044,662	64,174	15.9	3,901,023	78,060	20.0	3,987,027	78,043	19.6
1905	8,218,496	137,435	16.7	4,096,818	63,721	15.6	4,025,742	73,714	18.3	4,121,678	73,714	17.9
1906	8,405,303	141,099	16.8	4,148,974	64,896	15.6	4,166,556	76,203	18.3	4,256,329	76,203	17.9
1907	8,592,110	147,890	17.2	4,201,130	68,685	16.3	4,314,237	79,205	18.4	4,390,980	79,205	18.0
1908	8,778,917	138,912	15.8	4,253,286	65,837	15.5	4,469,248	73,072	16.4	4,525,631	73,075	16.1
1909	8,965,724	140,261	15.6	4,305,441	66,156	15.4	4,632,078	74,105	16.0	4,660,283	74,105	15.9
1910	9,152,532	147,710	16.1	4,357,597	70,960	16.3	4,803,264	76,742	16.0	4,794,935	76,750	16.0
1911	9,339,339	145,912	15.6	4,409,753	70,489	16.0	4,983,385	75,423	15.1	4,929,586	75,423	15.3
1912	9,526,146	142,377	14.9	4,461,909	69,358	15.5	5,173,064	73,008	14.1	5,064,237	73,019	14.4
1913	9,712,953	145,274	15.0	4,514,065	71,371	15.8	5,372,983	73,903	13.8	5,198,888	73,903	14.2
1914	9,899,760	145,476	14.7	4,566,221	70,673	15.5	5,583,871	74,803	13.4	5,333,539	74,803	14.0

Digitized by Google

Table 3 — STATE OF NEW YORK: *Births, by months, sex and color; also stillbirths:* **1914**

MONTH OF BIRTH	Total living births*	Sex			Color or Race					Stillbirths*
		Male	Female	Not stated	White	Negro	Indian	Chinese	Japanese	
Year 1914	**240,038**	**122,570**	**117,464**	**4**	**236,994**	**2,986**	**23**	**25**	**10**	**10,693**
January	19,994	10,156	9,838	.....	19,700	289	1	2	2	856
February	18,365	9,336	9,029	.....	18,142	220	1	1	1	903
March	20,670	10,678	9,992	.....	20,380	285	3	2	.....	1,057
April	19,760	10,107	9,652	1	19,489	267	.....	2	2	883
May	20,231	10,414	9,817	.....	19,958	267	4	.....	2	944
June	20,221	10,374	9,847	.....	19,919	296	5	1	.....	852
July	20,290	10,379	9,910	1	20,069	216	.....	4	1	880
August	21,494	10,855	10,639	.....	21,229	262	2	1	.....	857
September	20,186	10,279	9,906	1	19,963	216	1	5	1	771
October	20,534	10,501	10,032	1	20,308	222	1	2	1	881
November	18,559	9,342	9,217	.....	18,327	225	5	2	.....	891
December	19,734	10,149	9,585	.....	19,510	221	.....	3	.....	918

* Stillbirths are excluded from the total of living births.

Table 4 — STATE OF NEW YORK: *Deaths, by sex, color, conjugal condition, and general nativity:* **1914**

	Number of deaths: 1914	Per cent distribution
Total deaths	**145,476**	**100.0**
Sex:		
Male	79,095	54.4
Female	66,381	45.6
Color or race:		
White	141,866	97.5
Negro	3,449	2.4
Chinese	91	.1
Japanese	14	*
Indian	56	*
Conjugal condition:		
Single	61,365	42.2
Married	52,065	35.8
Widowed or divorced	31,073	21.3
Unknown	973	.7
General nativity:		
Native	97,047	66.7
Foreign	47,211	32.5
Unknown	1,218	.8

* Less than one-tenth.

Digitized by Google

Table 5 — STATE OF NEW YORK (EXCLUSIVE OF NEW YORK CITY): *Deaths, by color, general nativity, and conjugal condition, for each sex, by age periods:* **1914**

AGE IN YEARS	TOTAL DEATHS		WHITE		NEGRO		OTHER COLORED		NATIVE	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
All ages	**37,860**	**32,813**	**37,350**	**32,435**	**459**	**359**	**51**	**19**	**28,192**	**24,889**
Under 1	5,918	4,518	5,823	4,472	82	45	13	1	5,855	4,462
1– 4	1,655	1,460	1,620	1,437	32	20	3	3	1,589	1,420
5– 9	602	546	593	540	9	6	.....	.....	572	514
10–14	413	371	403	358	10	13	.....	.....	386	342
15–19	722	625	707	607	13	15	2	3	610	527
20–29	2,314	1,881	2,265	1,833	47	46	2	2	1,635	1,440
30–39	2,925	2,149	2,861	2,095	59	48	5	6	2,004	1,597
40–49	3,512	2,648	3,469	2,605	42	40	1	3	2,348	1,940
50–59	4,594	3,478	4,519	3,430	67	47	8	1	3,140	2,544
60–69	5,656	5,023	5,614	4,989	38	34	4	.....	3,773	3,381
70–79	5,970	5,903	5,925	5,873	41	30	4	.....	3,968	3,885
80–89	3,122	3,594	3,103	3,582	10	12	9	.....	2,024	2,414
90–99	408	595	400	592	8	3	.....	.....	264	412
100+	9	15	8	15	1	.....	.....	.....	1	8
Unknown	40	7	40	7	.....	.....	.....	.....	23	3

TABLE 5 — (*Concluded*)

AGE IN YEARS	FOREIGN		NATIVITY UNKNOWN		SINGLE*		MARRIED*		WIDOWED OR DIVORCED*	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
All ages	**9,044**	**7,677**	**624**	**247**	**15,203**	**10,821**	**15,730**	**10,888**	**6,443**	**10,975**
Under 1	28	24	35	32	5,918	4,518	.....	.....	.....	.....
1– 4	57	34	9	6	1,655	1,460	.....	.....	.....	.....
5– 9	27	27	3	5	602	546	.....	.....	.....	.....
10–14	25	29	2	.....	413	371	.....	.....	.....	.....
15–19	105	93	7	5	707	521	10	102	.....	.....
20–29	625	428	54	13	1,613	731	631	1,108	31	39
30–39	829	536	92	16	1,161	428	1,593	1,589	89	119
40–49	1,066	694	98	14	955	410	2,218	1,886	251	336
50–59	1,347	908	107	26	772	451	3,126	2,153	617	856
60–69	1,804	1,607	79	35	696	502	3,619	2,241	1,266	2,255
70–79	1,919	1,976	83	42	518	544	3,277	1,435	2,112	3,894
80–89	1,071	1,140	27	40	169	287	1,166	342	1,762	2,948
90–99	135	172	9	11	.....	46	86	16	309	528
100+	6	6	2	1	1	1	4	14	4	.....
Unknown	.....	3	17	1	23	5	.....	2	2	.....

* Marital condition unknown, 613: males, 484; females, 129.

Digitized by Google

Table 6 — CITIES OF NEW YORK: *Births registered (incomplete), deaths of infants under 1 year of age, and infant mortality:* **1914** (*1913*)

CITIES ARRANGED IN ORDER OF POPULATION	Total births,* 1914	Deaths under 1 year,* 1914	Annual Number of Deaths Under 1 Year per 1,000 Living Births	
			1914	1913
All cities	**196,426**	**19,603**	**100**	**109**
New York	140,528	13,295	94	102
Manhattan	65,293	6,781	104	111
The Bronx	15,704	1,139	73	80
Brooklyn	48,241	4,279	89	96
Queens	8,937	877	98	107
Richmond	2,353	219	93	106
Buffalo	12,639	1,524	121	138
Rochester	6,601	560	85	97
Syracuse	3,358	419	125	145
Albany	2,115	267	126	142
Yonkers	2,517	222	88	122
Schenectady	2,157	229	106	111
Utica	2,434	288	118	145
Troy	1,365	184	135	127
Binghamton	1,294	165	128	168
Elmira	801	85	106	101
Auburn	750	85	113	139
Amsterdam	1,067	119	112	141
Niagara Falls	1,430	169	118	129
Mount Vernon	906	69	76	100
New Rochelle	736	57	77	74
Jamestown	795	58	73	117
Poughkeepsie	801	71	89	99
Newburgh	606	57	94	136
Watertown	548	59	108	161
Kingston	446	41	92	121
Cohoes	554	96	173	131
Oswego	561	78	139	149
Rome	628	58	92	94
Gloversville	455	43	95	130
Dunkirk	548	54	99	116
Lockport	348	36	103	162
White Plains, village	521	41	79	128
Lackawanna	685	240	350	399
Peekskill, village	306	43	141	122
Ogdensburg	405	55	136	139
Glens Falls	322	37	115	69
Olean	461	34	74	107
Middletown	255	28	110	85
Ithaca	312	20	64	94
Watervliet	268	40	149	159
Port Chester, village	559	36	64	68
Corning	280	34	121	120
Hornell	267	18	67	116
Geneva	333	40	120	125
North Tonawanda	418	54	129	154
Little Falls	416	69	166	161
Ossining, village	175	16	91	102
Saratoga Springs, village	251	28	112	75
Batavia, village	339	46	136	126
Cortland	230	32	139	85
Plattsburg	244	30	123	139
Hudson	280	32	114	116
Fulton	332	45	136	143
Beacon	243	24	99	123
Rensselaer	152	28	184	77
Johnstown	227	15	66	149
Oneonta	227	22	[illegible]	74
Port Jervis	174	19	109	113
Tonawanda	166	24	145	131
Oneida	239	27	113	88
Canandaigua	165	14	85	90
Salamanca	186	24	129	81

* Stillbirths excluded.

Digitized by Google

Table 7 — STATE OF NEW YORK: *Births registered (incomplete), deaths at all ages, deaths of infants under 1 year of age (since 1904) and of children under 5, infant mortality, and per cent of deaths under 1 and under 5 to total deaths at all ages:* **1885-1914**

YEAR	Births registered*	Deaths at all ages	Deaths under 1 year*	Deaths under 5 years	Deaths under 1 year per 1,000 living births*	Per cent of deaths under 1 year to total deaths*	Per cent of deaths under 5 years to total deaths*
1885	63,536	80,407	.....	30,027	.....	.....	37.3
1886	89,828	86,801	.....	32,928	.....	.....	37.9
1887	102,038	108,269	.....	35,114	.....	.....	32.4
1888	103,089	114,584	.....	38,345	.....	.....	33.5
1889	114,804	113,155	.....	40,243	.....	.....	35.5
1890	112,572	128,648	.....	37,392	.....	.....	29.1
1891	125,909	129,850	.....	42,740	.....	.....	32.9
1892	130,143	131,388	.....	42,434	.....	.....	32.3
1893	136,297	129,659	.....	41,643	.....	.....	32.1
1894	141,827	123,423	.....	41,472	.....	.....	33.6
1895	142,311	128,834	.....	42,002	.....	.....	32.6
1896	147,327	126,253	.....	40,136	.....	.....	31.7
1897	144,631	118,525	.....	35,771	.....	.....	30.1
1898	138,702	122,584	.....	37,113	.....	.....	30.2
1899	136,778	121,831	.....	35,386	.....	.....	29.0
1900	143,156	132,089	.....	39,204	.....	.....	29.6
1901	140,539	131,335	.....	35,775	.....	.....	27.2
1902	146,740	124,830	.....	31,215	.....	.....	25.0
1903	158,343	127,498	.....	32,768	.....	.....	25.7
1904	165,014	142,217	24,909	39,086	151	17.5	27.5
1905	172,259	137,435	25,827	38,045	150	18.8	27.7
1906	183,012	141,099	27,114	39,290	148	19.2	27.9
1907	196,020	147,890	28,011	40,168	143	18.9	27.2
1908	203,159	138,912	26,561	37,941	131	19.1	27.3
1909	202,656	140,261	26,077	38,278	129	18.6	27.3
1910	213,235	147,710	27,534	39,848	129	18.6	27.0
1911	221,678	145,912	25,316	36,156	114	17.3	24.6
1912	227,120	142,377	24,681	34,787	109	17.3	24.4
1913	228,713	145,274	25,044	35,596	109	17.2	24.5
1914	240,038	145,476	23,731	33,082	99	16.3	22.7

* Deaths under one year were not compiled separately until 1904. The registration of births was very incomplete for the early years. The total births registered can scarcely be taken as approximately complete prior to 1908, and even for later years the infant mortality (ratio of deaths under 1 year per 1,000 living births) is too high because of omissions in the denominator of the fraction. Births and deaths are exclusive of stillbirths.

Digitized by Google

Table 8 — NEW YORK CITY AND REST OF STATE: *Births registered (incomplete for rest of State), deaths at all ages, deaths of infants under 1 year of age and of children under 5, infant mortality, and per cent of deaths under 1 and under 5 to total deaths at all ages:* **1905-1914**

[Births and deaths are exclusive of stillbirths]

YEAR	Total births registered	Total deaths at all ages	Deaths under 1 year	Deaths under 5 years	Deaths under 1 year per 1,000 living births	Per cent of deaths under 1 year to total deaths	Per cent of deaths under 5 years to total deaths
1905:							
New York City.....	103,881	73,714	16,435	24,539	158	22.3	33.3
Rest of State.....	*68,378*	*63,721*	*9,392*	*13,506*	*137*	*14.7*	*21.2*
1906:							
New York City.....	111,773	76,203	17,165	25,752	154	22.5	33.8
Rest of State.....	*71,239*	*64,896*	*9,949*	*13,538*	*140*	*15.3*	*20.9*
1907:							
New York City.....	120,716	79,205	17,513	25,812	145	22.1	32.6
Rest of State.....	*75,304*	*68,685*	*10,498*	*14,356*	*139*	*15.3*	*20.0*
1908:							
New York City.....	126,862	73,075	16,211	24,134	128	22.2	33.0
Rest of State.....	*76,297*	*65,357*	*10,350*	*13,807*	*136*	*15.7*	*21.0*
1909:							
New York City.....	122,367	74,105	15,944	24,496	130	21.5	33.1
Rest of State.....	*80,289*	*66,156*	*10,133*	*13,782*	*126*	*15.3*	*20.8*
1910:							
New York City.....	129,081	76,750	16,202	24,278	126	21.1	31.6
Rest of State.....	*84,154*	*70,960*	*11,352*	*15,570*	*135*	*16.0*	*21.9*
1911:							
New York City.....	134,541	75,423	15,016	22,233	112	19.9	29.5
Rest of State.....	*87,137*	*70,489*	*10,300*	*13,923*	*118*	*14.6*	*19.8*
1912:							
New York City.....	135,581	73,019	14,266	20,984	105	19.5	28.7
Rest of State.....	*91,539*	*69,358*	*10,415*	*13,803*	*114*	*15.0*	*19.9*
1913:							
New York City.....	135,123	73,903	13,782	20,715	102	18.6	28.0
Rest of State.....	*93,590*	*71,371*	*11,262*	*14,881*	*120*	*15.8*	*20.9*
1914:							
New York City.....	140,528	74,803	13,295	19,531	94	17.8	26.0
Rest of State.....	*99,510*	*70,673*	*10,436*	*13,551*	*105*	*14.8*	*19.2*

Digitized by Google

Table 9 — STATE OF NEW YORK: *Deaths, by months, according*

CAUSE OF DEATH (Detailed International List)	Year, 1914	Jan.	Feb.	Mar.	April	May
All causes	**145,476**	**13,484**	**12,756**	**15,056**	**13,311**	**12,984**
1. GENERAL DISEASES	*38,647*	*3,658*	*3,337*	*4,015*	*3,790*	*3,610*
Typhoid fever	878	69	59	51	64	62
Typhus fever	3	.....	1	.....	.....	1
Relapsing fever	1	1	.....	.....	.....	.....
Malaria	51	3	2	7	2	7
Smallpox	3	2	.....	.....	.....	.....
Measles	839	107	101	119	125	144
Scarlet fever	687	66	95	105	113	97
Whooping cough	730	59	53	79	95	90
Diphtheria and croup	2,015	199	213	240	213	197
Influenza	910	142	139	249	127	70
Miliary fever	.....	.....	.....	.....	.....	.....
Asiatic cholera	.....	.....	.....	.....	.....	.....
Cholera nostras	20	.....	1	.....	.....	.....
Dysentery	191	5	6	6	7	7
Plague	.....	.....	.....	.....	.....	.....
Yellow fever	.....	.....	.....	.....	.....	.....
Leprosy	2	.....	.....	.....	.....	1
Erysipelas	529	49	76	85	99	56
Other epidemic diseases	37	2	4	1	7	6
Purulent infection and septicemia	258	20	25	29	32	25
Glanders	1	.....	.....	.....	.....	.....
Anthrax	2	.....	.....	1	.....	.....
Rabies	11	1	.....	.....	.....	1
Tetanus	115	7	6	4	10	8
Mycoses	3	.....	.....	.....	1	1
Pellagra	16	1	.....	.....	1	2
Beriberi	.....	.....	.....	.....	.....	.....
Tuberculosis (total)	**16,559**	**1,492**	**1,420**	**1,725**	**1,537**	**1,548**
Tuberculosis of the lungs	14,248	1,316	1,220	1,488	1,357	1,318
Acute miliary tuberculosis	338	20	22	36	32	36
Tuberculosis meningitis	1,080	72	95	117	106	119
Abdominal tuberculosis	376	25	37	36	36	29
Pott's disease	126	13	12	12	9	13
White swelling	69	11	3	6	5	8
Tuberculosis of other organs	169	16	23	17	14	14
Disseminated tuberculosis	153	19	8	13	28	11
Rickets	74	9	6	5	7	5
Syphilis	890	69	54	92	90	67
Gonococcus infection	43	3	5	6	5	4
Cancer and other malignant tumors (total)	**8,906**	**798**	**662**	**756**	**759**	**751**
Cancer* of the buccal cavity	320	32	16	24	29	26
Cancer* of the stomach, liver	3,333	313	247	288	275	296
Cancer* of the peritoneum, intestines, rectum	1,310	104	86	122	128	95
Cancer* of the female genital organs	1,223	112	109	95	109	94
Cancer* of the breast	916	86	75	84	63	83
Cancer* of the skin	215	16	15	18	14	23
Cancer* of other organs and of organs not specified	1,589	135	114	125	141	134
Other tumors (tumors of the female genital organs excepted)	52	4	4	2	2	6
Acute articular rheumatism	621	51	52	73	73	78
Chronic rheumatism and gout	163	20	11	12	13	20
Scurvy	18	2	6	2	.....	1
Diabetes	1,943	191	176	169	187	157
Exophthalmic goiter	152	18	8	10	14	22
Addison's disease	46	.....	5	3	6	3
Leukemia	223	21	18	23	27	16
Anemia, chlorosis	546	32	39	65	46	64
Other general diseases	136	10	11	10	19	12
Alcoholism (acute or chronic)	900	100	76	82	55	71
Chronic lead poisoning	21	2	1	3	1	4
Other chronic occupation poisonings	2	1	.....	.....	.....	1
Other chronic poisonings	50	2	2	1	3	5

* "Cancer and other malignant tumors."

Digitized by Google

to the detailed International List of Causes of Deaths: **1914**

CAUSE OF DEATH (Detailed International List)	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
All causes	**10,663**	**10,949**	**11,492**	**11,985**	**10,738**	**10,924**	**12,034**
1. GENERAL DISEASES	*3,133*	*2,912*	*2,858*	*2,825*	*2,773*	*2,771*	*3,071*
Typhoid fever	43	67	70	116	117	97	63
Typhus fever	.....	.....	.....	.....	.....	.....	1
Relapseing fever	.....	.....	.....	.....	.....	.....	.....
Malaria	4	10	1	8	1	3	3
Smallpox	1	.....	.....	.....	.....	.....	.....
Measles	102	39	36	8	14	17	27
Scarlet fever	58	32	28	19	18	26	30
Whooping cough	64	56	73	49	45	33	34
Diphtheria and croup	154	141	82	92	128	164	192
Influenza	28	16	11	14	22	33	59
Miliary fever	.....	.....	.....	.....	.....	.....	.....
Asiatic cholera	.....	.....	.....	.....	.....	.....	.....
Cholera nostras	.....	3	4	8	1	3	.....
Dysentery	6	21	39	35	35	15	9
Plague	.....	.....	.....	.....	.....	.....	.....
Yellow fever	.....	.....	.....	.....	.....	.....	.....
Leprosy	.....	1	.....	.....	.....	.....	.....
Erysipelas	39	32	13	12	14	26	28
Other epidemic diseases	8	1	2	.....	1	3	2
Purulent infection and septicemia	28	18	23	16	13	16	13
Glanders	.....	.....	.....	.....	1	.....	.....
Anthrax	.....	.....	.....	.....	.....	1	.....
Rabies	1	1	3	1	.....	2	1
Tetanus	4	12	16	13	13	10	4
Mycoses	.....	.....	.....	.....	.....	.....	1
Pellagra	.....	2	2	3	4	.....	1
Beriberi	.....	.....	.....	.....	.....	.....	.....
Tuberculosis (total)	**1,392**	**1,278**	**1,204**	**1,256**	**1,143**	**1,166**	**1,248**
Tuberculosis of the lungs	1,184	1,075	1,011	1,086	996	1,006	1,191
Acute miliary tuberculosis	38	26	29	23	25	28	23
Tuberculosis meningitis	107	110	85	68	59	69	73
Abdominal tuberculosis	27	28	39	44	22	27	26
Pott's disease	8	14	12	5	12	8	8
White swelling	5	9	5	2	4	4	7
Tuberculosis of other organs	14	7	15	15	10	14	10
Disseminated tuberculosis	9	9	8	13	15	10	10
Rickets	5	3	7	10	4	2	11
Syphilis	72	87	83	71	70	61	74
Gonococcus infection	2	3	1	4	3	3	4
Cancer and other malignant tumors (total)	**725**	**730**	**760**	**762**	**758**	**710**	**795**
Cancer* of the buccal cavity	35	20	27	24	29	25	33
Cancer* of the stomach, liver	261	282	300	268	279	250	274
Cancer* of the peritoneum, intestines, rectum	121	119	107	109	109	94	116
Cancer* of the female genital organs	90	94	94	93	94	108	131
Cancer* of the breast	70	69	84	72	70	92	68
Cancer* of the skin	23	15	18	11	18	24	20
Cancer* of other organs and of organs not specified	125	131	130	125	159	117	153
Other tumors (tumors of the female genital organs excepted)	10	4	4	2	4	5	5
Acute articular rheumatism	57	33	40	39	34	41	50
Chronic rheumatism and gout	6	22	9	12	13	13	12
Scurvy	1	.....	2	2	.....	2	.....
Diabetes	161	120	150	170	162	147	153
Exophthalmic goiter	7	10	9	13	10	15	16
Addison's disease	5	4	3	7	2	2	6
Leukemia	15	19	18	17	17	19	13
Anemia, chlorosis	59	44	53	34	39	36	35
Other general diseases	15	10	11	7	7	14	10
Alcoholism (acute or chronic)	58	73	83	80	74	83	65
Chronic lead poisoning	2	2	3	.....	.....	1	2
Other chronic occupation poisonings	.....	.....	.....	.....	.....	.....	.....
Other chronic poisonings	1	10	9	5	6	2	4

Digitized by Google

Table 9 — STATE OF NEW YORK:

CAUSE OF DEATH (Detailed International List)	Year, 1914	Jan.	Feb.	Mar.	April	May
2. DISEASES OF THE NERVOUS SYSTEM AND OF THE ORGANS OF SPECIAL SENSE.	*11,596*	*1,099*	*1,011*	*1,211*	*1,015*	*1,028*
Encephalitis	75	5	4	13	8	9
Meningitis	770	51	50	71	66	77
Simple meningitis	424	27	24	38	41	37
Cerebrospinal meningitis (undefined)	325	22	24	32	22	36
Cerebrospinal fever	21	2	2	1	2	4
Locomotor ataxia	250	20	18	29	25	33
Other diseases of the spinal cord	584	48	47	59	46	54
Acute anterior poliomyelitis	68	8	2	6	.....	2
Other diseases of the spinal cord*	516	40	45	53	46	52
Cerebral hemorrhage, apoplexy	6,716	671	580	695	592	580
Softening of the brain	139	10	19	11	5	14
Paralysis without specified cause	591	59	49	59	53	54
General paralysis of the insane	792	79	97	82	65	52
Other forms of mental alienation	205	20	8	29	12	21
Epilepsy	336	31	33	44	30	31
Convulsions (nonpuerperal)	7	2	.....	1	1	1
Convulsions of infants	351	37	30	44	39	26
Chorea	23	5	1	2	2	6
Neuralgia and neuritis	69	4	3	6	6	4
Other diseases of the nervous system	333	23	26	26	24	28
Diseases of the eyes and their annexa	27	16	3	.....	.....	.....
Diseases of the ears	328	18	43	40	39	38
3. DISEASES OF THE CIRCULATORY SYSTEM.	*26,125*	*2,583*	*2,449*	*2,757*	*2,386*	*2,293*
Pericarditis	111	9	7	10	13	14
Acute endocarditis	1,159	103	106	104	113	106
Organic diseases of the heart	19,523	1,965	1,866	2,086	1,793	1,731
Angina pectoris	748	60	64	84	63	61
Diseases of the arteries, atheroma, aneurism, etc.	3,956	398	354	408	352	342
Embolism and thrombosis	436	37	37	34	38	27
Diseases of the veins (varices, hemorrhoids, phlebitis, etc.)	94	5	7	15	5	3
Diseases of the lymphatic system (lymphangitis, etc.)	76	6	6	12	7	9
Hemorrhage; other diseases of the circulatory system	22	.....	2	4	2	.....
4. DISEASES OF THE RESPIRATORY SYSTEM.	*18,370*	*2,139*	*2,151*	*2,307*	*2,086*	*1,739*
Diseases of the nasal fossae	4	.....	.....	1	1	.....
Diseases of the larynx	98	10	8	18	8	7
Diseases of the thyroid body	47	4	6	6	2	1
Acute bronchitis	1,113	125	136	170	118	80
Chronic bronchitis	560	62	69	77	65	45
Bronchopneumonia	6,720	775	750	939	780	669
Pneumonia	8,790	1,076	1,095	1,453	1,004	841
Lobar pneumonia	7,381	880	911	1,225	814	710
Pneumonia (undefined)	1,409	196	184	228	190	131
Pleurisy	452	39	35	63	48	47
Pulmonary congestion, pulmonary apoplexy	218	16	23	32	22	16
Gangrene of the lung	29	6	2	2	4	5
Asthma	188	17	20	28	18	14
Pulmonary emphysema	42	4	2	8	4	5
Other diseases of the respiratory system (tuberculosis excepted)	109	5	5	10	12	9
5. DISEASES OF THE DIGESTIVE ORGANS	*14,463*	*948*	*870*	*980*	*915*	*1,006*
Diseases of the mouth and annexa	77	7	5	10	5	10
Diseases of the pharynx	238	27	20	28	21	25
Diseases of the esophagus	24	.....	.....	2	1	6
Ulcer of the stomach	534	51	44	49	42	61
Other diseases of the stomach (cancer excepted)	889	86	67	101	69	84
Diarrhea and enteritis (under 2 years)	6,287	234	221	250	239	282
Diarrhea and enteritis (2 years and over)	1,102	62	64	59	80	77
Ankylostomiasis	.....	.....	.....	.....	.....	.....
Intestinal parasites	8	1	1	2	1	.....
Appendicitis and typhlitis	1,231	102	93	115	111	115
Hernia, intestinal obstruction	1,226	104	107	96	118	96

* Exclusive of "acute anterior

Digitized by Google

Deaths, by months, etc.—(Continued)

CAUSE OF DEATH (Detailed International List)	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
2. DISEASES OF THE NERVOUS SYSTEM AND OF THE ORGANS OF SPECIAL SENSE.	*872*	*868*	*838*	*801*	*882*	*942*	*1,031*
Encephalitis	5	5	5	4	11	5	1
Meningitis	90	56	62	63	56	63	65
Simple meningitis	40	36	35	36	29	40	41
Cerebrospinal meningitis (undefined)	49	19	26	25	27	21	21
Cerebrospinal fever	1	1	1	2	.....	2	3
Locomotor ataxia	17	12	25	17	14	14	26
Other diseases of the spinal cord	51	35	53	47	48	42	54
Acute anterior poliomyelitis	4	8	5	16	8	8	1
Other diseases of the spinal cord*	47	27	48	31	40	34	53
Cerebral hemorrhage, apoplexy	463	516	483	448	509	560	619
Softening of the brain	15	6	12	11	12	9	15
Paralysis without specified cause	37	45	46	44	57	45	43
General paralysis of the insane	47	57	51	52	60	75	75
Other forms of mental alienation	19	15	14	18	13	21	15
Epilepsy	24	27	24	28	14	30	20
Convulsions (nonpuerperal)	.....	1	.....	1	.....	.....	.....
Convulsions of infants	31	43	24	22	21	15	19
Chorea	2	3	1	.....	.....	.....	1
Neuralgia and neuritis	2	6	4	8	12	7	7
Other diseases of the nervous system	31	22	21	21	29	37	45
Diseases of the eyes and their annexa	1	1	4	1	.....	1	.....
Diseases of the ears	37	18	9	16	26	18	26
3. DISEASES OF THE CIRCULATORY SYSTEM.	*1,766*	*1,832*	*1,849*	*1,822*	*1,970*	*2,096*	*2,322*
Pericarditis	6	8	8	1	8	10	17
Acute endocarditis	80	92	82	80	86	101	106
Organic diseases of the heart	1,289	1,345	1,381	1,337	1,483	1,532	1,715
Angina pectoris	54	54	31	62	62	67	86
Diseases of the arteries, atheroma, aneurism, etc	283	271	300	281	285	334	348
Embolism and thrombosis	33	47	34	41	35	36	37
Diseases of the veins (varices, hemorrhoids, phlebitis, etc.)	9	7	7	14	7	9	6
Diseases of the lymphatic system (lymphangitis, etc.)	2	6	5	5	4	5	4
Hemorrhage; other diseases of the circulatory system	5	2	1	1	.....	2	3
4. DISEASES OF THE RESPIRATORY SYSTEM	*1,097*	*800*	*709*	*763*	*964*	*1,328*	*1,787*
Diseases of the nasal fossae	.....	.....	.....	1	.....	.....	1
Diseases of the larynx	4	6	11	5	5	11	5
Diseases of the thyroid body	5	3	5	2	1	4	8
Acute bronchitis	61	45	44	48	68	92	126
Chronic bronchitis	28	37	25	35	34	38	45
Bronchopneumonia	447	352	301	275	330	474	628
Pneumonia	480	289	248	325	451	632	896
Lobar pneumonia	416	253	215	261	386	542	768
Pneumonia (undefined)	64	36	33	64	65	90	128
Pleurisy	38	32	39	23	25	31	32
Pulmonary congestion, pulmonary apoplexy	13	11	15	25	16	10	19
Gangrene of the lungs	.....	.....	4	4	4	.....	.....
Asthma	13	12	7	11	14	19	15
Pulmonary emphysema	2	1	3	.....	4	8	1
Other diseases of the respiratory system (tuberculosis excepted)	6	12	9	9	12	9	11
5. DISEASES OF THE DIGESTIVE SYSTEM	*839*	*1,576*	*2,283*	*1,950*	*1,341*	*931*	*825*
Diseases of the mouth and annexa	4	1	8	8	7	8	4
Diseases of the pharynx	13	17	24	15	15	16	17
Diseases of the esophagus	5	1	.....	3	.....	4	2
Ulcer of the stomach	36	38	33	43	45	48	44
Other diseases of the stomach (cancer excepted)	59	67	79	72	71	66	68
Diarrhea and enteritis (under 2 years)	294	905	1,500	1,224	645	283	210
Diarrhea and enteritis (2 years and over)	62	96	205	171	118	60	48
Ankylostomiasis	.....	.....	.....	.....	.....	.....	.....
Intestinal parasites	.....	.....	2	.....	.....	.....	1
Appendicitis and typhlitis	91	116	133	91	86	95	83
Hernia, intestinal obstruction	76	117	89	98	98	102	125

poliomyelitis" (infantile paralysis).

Digitized by Google

Table 9 — STATE OF NEW YORK:

CAUSE OF DEATH (Detailed International List)	Year, 1914	Jan.	Feb.	Mar.	April	May
5. DISEASES OF THE DIGESTIVE SYSTEM —(*Continued*)						
Hernia	599	70	67	69	82	38
Intestinal obstruction	627	34	40	27	36	58
Other diseases of the intestines	229	16	18	22	23	21
Acute yellow atrophy of the liver	41	8	1	8	2	3
Hydatid tumor of the liver	9	1	2	.....	.....	2
Cirrhosis of the liver	1,492	138	138	149	119	133
Biliary calculi	328	32	28	24	30	25
Other diseases of the liver	444	49	35	26	33	36
Diseases of the spleen	11	1	2	1	.....	.....
Simple peritonitis (nonpuerperal)	198	15	19	22	15	21
Other diseases of the digestive system (cancer and tuberculosis excepted)	95	8	5	11	6	9
6. NONVENEREAL DISEASES OF THE GENITO-URINARY SYSTEM AND ANNEXA	*12,845*	*1,193*	*1,103*	*1,205*	*1,117*	*1,159*
Acute nephritis	1,012	88	108	94	94	92
Bright's disease	10,296	960	871	977	871	934
Chyluria	9	.....	1	5	3	.....
Other diseases of the kidneys and annexa	221	14	13	14	17	23
Calculi of the urinary passages	70	3	5	8	8	6
Diseases of the bladder	180	25	20	15	10	14
Diseases of the urethra, urinary abscess, etc	39	5	4	2	1	5
Diseases of the prostate	381	42	26	30	41	21
Nonvenereal diseases of the male genital organs	20	1	2	6	1	1
Uterine hemorrhage (nonpuerperal)	16	.....	6	3	2	.....
Uterine tumor (noncancerous)	222	24	15	17	21	27
Other diseases of the uterus	121	12	6	13	14	4
Cysts and other tumors of the ovary	94	7	11	4	9	12
Salpingitis and other diseases of the female genital organs	182	11	10	14	22	20
Nonpuerperal diseases of the breast (cancer excepted)	12	1	.....	3	3	.....
7. THE PUERPERAL STATE	*1,341*	*109*	*137*	*167*	*150*	*142*
Accidents of pregnancy	173	15	29	23	16	12
Puerperal hemorrhage	127	7	11	10	16	13
Other accidents of labor	120	14	20	19	5	10
Puerperal septicemia	495	43	47	77	60	55
Puerperal albuminuria and convulsions	349	27	26	33	41	44
Puerperal phlegmasia alba dolens, embolus, sudden death	65	2	4	4	10	6
Following childbirth (not otherwise defined)	9	.....	.....	1	1	1
Puerperal diseases of the breast	3	1	.....	.....	1	1
8. DISEASES OF THE SKIN AND OF THE CELLULAR TISSUE	*505*	*44*	*51*	*69*	*49*	*44*
Gangrene	174	16	23	26	18	19
Furuncle	69	2	3	18	6	2
Acute abscess	161	14	19	19	17	17
Other diseases of the skin and annexa	101	12	6	6	8	6
9. DISEASES OF THE BONES AND OF THE ORGANS OF LOCOMOTION	*213*	*19*	*17*	*18*	*16*	*23*
Diseases of the bones (tuberculosis excepted)	170	18	11	11	13	19
Diseases of the joints (tuberculosis and rheumatism excepted)	35	1	4	6	3	3
Amputations	2	.....	.....	.....	.....	.....
Other diseases of the organs of locomotion	6	.....	2	1	.....	1
10. MALFORMATIONS	*1,479*	*121*	*153*	*139*	*136*	*131*
Congenital malformations (stillbirths not included):						
Hydrocephalus	134	4	12	14	13	15
Congenital malformations of the heart	906	93	84	88	84	70
Other congenital malformations	439	24	57	36	39	36

Digitized by Google

Deaths, by months, etc.—(Continued)

CAUSE OF DEATH (Detailed International List)	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
5. DISEASES OF THE DIGESTIVE SYSTEM (*Continued*)							
Hernia	42	39	35	32	40	36	49
Intestinal obstruction	34	78	54	66	58	66	76
Other diseases of the intestines	12	19	20	20	21	23	14
Acute yellow atrophy of the liver	2	3	1	3	6	5	4
Hydatid tumor of the liver	1	1	.....	1	.....	.....	1
Cirrhosis of the liver	99	108	112	116	132	127	121
Biliary calculi	26	25	19	29	28	29	33
Other diseases of the liver	29	35	36	33	46	49	27
Diseases of the spleen	.....	2	.....	2	.....	2	1
Simple peritonitis (nonpuerperal)	24	19	20	15	10	7	11
Other diseases of the digestive system (cancer and tuberculosis excepted)	6	6	7	6	13	7	11
6. NONVENEREAL DISEASES OF THE GENITO-URINARY SYSTEM AND ANNEXA	*1,070*	*952*	*949*	*935*	*933*	*1,057*	*1,172*
Acute nephritis	77	82	76	63	81	77	80
Bright's disease	841	740	750	768	747	865	972
Chyluria	.....	.....	.....	.....	.....	.....	.....
Other diseases of the kidneys and annexa	24	19	21	18	13	16	24
Calculi of the urinary passages	14	4	5	1	6	2	8
Diseases of the bladder	19	21	11	10	11	13	11
Diseases of the urethra, urinary abscess, etc	2	4	1	1	4	5	5
Diseases of the prostate	31	31	30	36	28	30	35
Nonvenereal diseases of the male genital organs	2	1	2	2	1	1	.....
Uterine hemorrhage (nonpuerperal)	2	.....	1	1	.....	.....	1
Uterine tumor (noncancerous)	19	14	19	8	17	22	19
Other diseases of the uterus	14	14	13	9	9	8	5
Cysts and other tumors of the ovary	8	14	4	9	6	8	2
Salpingitis and other diseases of the female genital organs	16	8	15	8	10	8	10
Nonpuerperal diseases of the breast (cancer excepted)	1	.....	1	1	.....	2	.....
7. THE PUERPERAL STATE	*113*	*83*	*85*	*75*	*99*	*71*	*110*
Accidents of pregnancy	15	14	13	10	10	4	12
Puerperal hemorrhage	10	10	10	8	13	7	12
Other accidents of labor	13	3	7	4	9	11	5
Puerperal septicemia	39	24	35	21	32	21	41
Puerperal albuminuria and convulsions	28	25	18	25	25	22	35
Puerperal phlegmasia alba dolens, embolus, sudden death	7	7	2	6	9	4	4
Following childbirth (not otherwise defined)	1	.....	.....	1	1	2	1
Puerperal diseases of the breast	.....	.....	.....	.....	.....	.....	.....
8. DISEASES OF THE SKIN AND OF THE CELLULAR TISSUE	*54*	*41*	*40*	*26*	*33*	*33*	
Gangrene	10	13	10	10	6	12	
Furuncle	8	10	6	4	9	5	
Acute abscess	7	8	16	7	11	15	
Other diseases of the skin and annexa	9	10	8	5	7	11	
9. DISEASES OF THE BONES AND OF THE ORGANS OF LOCOMOTION	*24*	*18*	*21*	*17*	*11*	*15*	
Diseases of the bones (tuberculosis excepted)	18	17	18	10	7	14	
Diseases of the joints (tuberculosis and rheumatism excepted)	5	.....	3	6	3	1	.....
Amputations	1	.....	.....	1	.....	.....	.....
Other diseases of the organs of locomotion	.....	1	.....	.....	1	.....	.....
10. MALFORMATIONS	*99*	*118*	*96*	*107*	*124*	*113*	*154*
Congenital malformations (stillbirths not included):							
Hydrocephalus	9	12	12	5	12	13	13
Congenital malformations of the heart	67	61	58	67	70	70	94
Other congenital malformations	23	45	25	35	42	30	47

Digitized by Google

Table 9 — STATE OF NEW YORK:

CAUSE OF DEATH (Detailed International List)	Year, 1914	Jan.	Feb.	Mar.	April	May
11. EARLY INFANCY	*8,708*	*740*	*721*	*826*	*758*	*818*
Congenital debility, icterus and sclerema	6,816	590	552	621	593	646
Premature birth	4,264	394	361	406	394	382
Congenital debility, "atrophy," "marasmus," etc.	2,552	196	191	215	199	264
Other causes peculiar to early infancy	1,879	147	166	203	165	165
Injuries at birth	998	75	94	102	86	90
Other diseases peculiar to early infancy	881	72	72	101	79	75
Lack of care	13	3	3	2	.....	1
12. OLD AGE	.....	.....	.....	.....	.....	.....
Senility	1,338	141	127	132	118	107
13. EXTERNAL CAUSES	*9,650*	*787*	*620*	*710*	*751*	*893*
Suicide (total)	**1,516**	**134**	**106**	**132**	**132**	**129**
Suicide by poison	273	28	27	20	29	23
Suicide by asphyxia	348	35	18	36	29	32
Suicide by hanging or strangulation	261	18	18	14	22	31
Suicide by drowning	99	4	3	9	9	7
Suicide by firearms	303	27	24	31	24	22
Suicide by cutting or piercing instruments	114	14	11	11	8	8
Suicide by jumping from high places	90	8	4	7	7	13
Suicide by crushing	15	.....	1	4	3	1
Other suicides	13	.....	.....	.....	1	2
Accidental or undefined (total)	**7,725**	**619**	**492**	**553**	**583**	**709**
Poisoning by food	67	1	4	5	3	6
Other acute poisonings	205	20	14	19	20	25
Conflagration	158	19	12	4	13	21
Burns (conflagration excepted)	760	74	74	74	51	61
Absorption of deleterious gases (conflagration excepted)	662	76	80	89	58	51
Accidental drowning	964	24	3	23	52	135
Traumatism by firearms	115	7	7	7	5	11
Traumatism by cutting or piercing instruments	20	1	2	.....	1	.....
Traumatism by fall	1,484	51	82	109	151	122
Traumatism in mines and quarries	15	2	.....	4	2	1
Traumatism in mines	8	2	.....	3	.....	.....
Traumatism in quarries	7	.....	.....	1	2	1
Traumatism by machines	126	12	10	14	11	13
Traumatism by other crushing	2,004	156	107	112	141	170
Railroad accidents and injuries	834	114	53	56	61	55
Street-car accidents and injuries	173	6	12	12	14	15
Automobile accidents and injuries	483	6	15	12	26	46
Injuries by other vehicles	330	16	13	18	22	39
Landslide, other crushing	184	14	14	14	18	15
Injuries by animals	54	5	2	2	4	3
Starvation	7	1	1	.....	.....	.....
Excessive cold	62	16	14	16	5	1
Effects of heat	63	.....	1	.....	.....	12
Lightning	33	.....	.....	.....	.....	6
Electricity (lightning excepted)	85	9	7	3	7	5
Fractures (cause not specified)	470	63	47	43	35	40
Other external violence	371	82	25	29	24	26
Homicide (total)	**409**	**34**	**22**	**25**	**36**	**45**
Homicide by firearms	236	23	11	16	22	27
Homicide by cutting or piercing instruments	59	6	3	3	5	8
Homicide by other means	114	5	8	6	9	10
14. ILL-DEFINED DISEASES	*196*	*9*	*9*	*21*	*26*	*7*
Ill-defined organic disease	10	2	3	.....	1	.....
Sudden death	9	.....	1	1	2	.....
Not specified or ill-defined	177	7	5	20	23	7

Digitized by Google

Deaths, by months, etc.—(Concluded)

CAUSE OF DEATH (Detailed International List)	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
11. EARLY INFANCY	*649*	*664*	*748*	*749*	*672*	*699*	*670*
Congenital debility, icterus and sclerema	511	515	588	602	537	557	504
Premature birth	343	334	311	321	313	353	352
Congenital debility, "atrophy," "marasmus," etc.	168	181	277	281	224	204	152
Other causes peculiar to early infancy	136	149	159	147	135	142	165
Injuries at birth	70	74	77	92	69	70	99
Other diseases peculiar to early infancy	66	75	82	55	66	72	66
Lack of care	2	.....	1	.....	.....	.....	1
12. OLD AGE	.....	.....	.....	.....	.....	.....	.....
Senility	90	89	80	122	109	97	126
13. EXTERNAL CAUSES	*860*	*981*	*921*	*876*	*812*	*747*	*688*
Suicide (total)	**119**	**142**	**119**	**131**	**138**	**106**	**118**
Suicide by poison	21	28	20	18	23	18	18
Suicide by asphyxia	27	20	18	31	34	27	41
Suicide by hanging or strangulation	29	25	26	25	19	16	18
Suicide by drowning	9	30	9	9	5	4	1
Suicide by firearms	16	22	30	33	26	25	23
Suicide by cutting or piercing instruments	8	9	7	9	14	9	6
Suicide by jumping from high places	9	5	8	5	14	3	7
Suicide by crushing	.....	1	.....	.....	1	2	2
Other suicides	.....	2	1	1	2	2	2
Accidental or undefined (total)	**715**	**810**	**759**	**701**	**635**	**601**	**548**
Poisoning by food	4	7	7	20	3	6	1
Other acute poisonings	19	14	16	14	20	15	9
Conflagration	16	6	5	7	11	23	21
Burns (conflagration excepted)	62	43	51	66	70	57	77
Absorption of deleterious gases (conflagration excepted)	26	39	30	24	37	65	87
Accidental drowning	167	208	178	82	51	28	18
Traumatism by firearms	6	9	8	15	12	20	8
Traumatism by cutting or piercing inments	4	1	2	1	.....	5	3
Traumatism by fall	130	146	147	144	142	134	126
Traumatism in mines and quarries	2	.....	2	.....	.....	1	1
Traumatism in mines	2	.....	1	.....	.....	.....	.....
Traumatism in quarries	.....	.....	1	.....	.....	1	1
Traumatism by machines	12	12	6	3	11	4	18
Traumatism by other crushing	183	221	210	216	200	169	119
Railroad accidents and injuries	68	86	87	67	69	69	49
Street-car accidents and injuries	16	15	18	19	19	13	14
Automobile accidents and injuries	50	63	55	79	64	35	32
Injuries by other vehicles	33	35	32	36	28	42	16
Landslide, other crushing	16	22	18	15	20	10	8
Injuries by animals	10	7	8	4	4	2	3
Starvation	1	.....	.....	2	1	1	.....
Excessive cold	.....	.....	.....	1	1	2	6
Effects of heat	10	18	13	9	.....	.....	.....
Lightning	6	13	8	.....	.....	.....	.....
Electricity (lightning excepted)	8	7	9	14	8	5	3
Fractures (cause not specified)	28	37	34	45	42	35	21
Other external violence	21	27	25	34	22	29	27
Homicide (total)	**26**	**33**	**43**	**44**	**39**	**40**	**22**
Homicide by firearms	16	23	25	22	20	20	11
Homicide by cutting or piercing instruments	2	2	5	8	10	3	4
Homicide by other means	8	8	13	14	9	17	7
14. ILL-DEFINED DISEASES	*17*	*11*	*17*	*17*	*15*	*24*	*23*
Ill-defined organic disease	1	.....	.....	1	.....	1	1
Sudden death	1	1	.....	1	.....	1	1
Not specified or ill-defined	15	10	17	15	15	22	21

Digitized by Google

Table 10 — STATE OF NEW YORK: *Deaths and death rates per 100,000 population from certain important causes of death (condensed list)*: **1885-1914**

[Rates as printed in previous reports subject to revision]

YEAR	Typhoid Fever		Malaria		Smallpox		Measles		Scarlet Fever	
	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
1885	1,067	19.0	944	16.8	33	0.6	1,170	20.8	1,184	21.1
1886	1,169	20.4	899	15.7	39	.7	895	15.6	1,011	17.7
1887	1,327	22.7	935	16.0	175	3.0	1,205	20.7	1,267	21.7
1888	1,483	24.9	813	13.7	212	3.6	944	15.9	2,452	41.2
1889	1,550	25.6	746	12.3	30	.5	899	14.8	2,205	36.4
1890	1,612	26.1	738	12.0	4	.1	1,161	18.8	913	14.8
1891	1,926	30.5	619	9.8	4	.1	1,200	19.0	2,252	35.6
1892	1,664	25.8	613	9.5	143	2.2	1,350	20.9	2,177	33.8
1893	1,685	25.7	493	7.5	252	3.9	789	12.1	1,626	24 8
1894	1,640	24.7	422	6.4	308	4.7	900	13.5	1,227	18.8
1895	1,716	25.4	409	6.1	11	.2	1,266	18.8	850	12.6
1896	1,542	22.6	449	6.6	3	*	1,495	21.8	759	11.1
1897	1,351	19.4	380	5.5	27	.4	873	12.5	841	12.1
1898	1,810	25.6	404	5.7	1	*	838	11.8	837	11.8
1899	1,604	22.4	248	3.5	21	.3	756	10.5	730	10.2
1900	1,948	26.7	309	4.2	14	.2	1,333	18.3	689	9.4
1901	1,741	23.4	283	3.8	445	6.0	859	11.6	1,430	19.2
1902	1,318	17.4	189	2.5	442	5.8	929	12.2	1,215	16.0
1903	1,665	21.5	137	1.8	41	.5	721	9.3	1,057	13.6
1904	1,652	20.9	149	1.9	13	.2	1,170	14.8	1,194	15.1
1905	1,554	19.2	106	1.3	9	.1	988	12.2	726	9.0
1906	1,568	19.0	139	1.7	7	.1	1,369	16.6	690	8.4
1907	1,673	19.8	136	1.6	10	.1	997	11.8	1,032	12.2
1908	1,375	16.0	84	1.0	3	*	1,175	13.7	1,688	19.8
1909	1,315	15.1	78	.9	4	*	1,272	14.6	1,205	14.0
1910	1,374	15.0	65	.7	7	.1	1,285	14.0	1,617	17.6
1911	1,316	14.0	63	.7	3	*	977	10.4	1,149	12.3
1912	1,128	11.8	54	.6	4	*	1,050	10.9	789	8.2
1913	1,018	10.5	42	.4	1	*	1,072	11.0	837	8.6
1914	878	8.9	51	.5	3	*	839	8.5	687	6.9

* Less than one-tenth

Table 10 — STATE OF NEW YORK: *Deaths and death rates, etc.— (Continued)*

[Rates as printed in previous reports subject to revision]

YEAR	Whooping Cough		Diphtheria		Erysipelas		Consumption†	
	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
1885	834	14.8	4,508	80.3	354	6.3	11,288	200.3
1886	1,244	21.8	5,597	97.8	357	6.2	11,947	208.8
1887	447	7.6	6,490	111.3	327	5.6	11,609	199.0
1888	994	16.7	6,448	108.4	342	5.7	12,388	208.2
1889	1,303	21.5	5,855	96.9	293	4.8	12,390	204.3
1890	1,156	18.7	4,915	79.5	312	5.1	13,417	217.0
1891	825	13.0	5,072	80.3	367	5.8	13,445	212.8
1892	921	14.3	5,918	91.9	477	7.4	13,471	209.2
1893	1,203	18.4	5,947	91.0	366	5.6	13,123	200.7
1894	1,020	15.4	6,592	99.3	331	5.0	12,824	193.1
1895	1,169	17.3	4,989	74.0	370	5.5	13,267	196.7
1896	996	14.5	4,597	67.1	340	5.0	13,265	193.7
1897	825	11.9	4,115	59.2	303	4.4	12,641	181.8
1898	1,155	16.4	2,612	37.0	237	3.4	12,979	183.8
1899	886	12.4	2,786	38.9	353	4.9	13,412	187.1
1900	1,020	14.0	3,306	45.4	466	6.4	13,590	186.6
1901	721	9.7	3,026	40.7	363	4.9	13,766	185.1
1902	923	12.2	2,859	37.7	314	4.1	12,582	165.7
1903	811	10.5	3,035	39.2	354	4.6	13,194	170.2
1904	426	5.4	3,041	38.4	430	5.4	14,159	178.8
1905	847	10.5	2,296	28.4	415	5.1	14,061	174.0
1906	821	9.9	2,691	32.6	452	5.5	14,027	170.0
1907	789	9.4	2,603	30.9	483	5.7	14,431	171.0
1908	503	5.9	2,473	28.9	419	4.9	14,347	167.5
1909	783	9.0	2,313	26.5	472	5.4	13,996	161.0
1910	727	7.9	2,433	26.5	526	5.7	14,059	153.5
1911	819	8.8	1,963	20.9	573	6.1	14,205	151.5
1912	683	7.1	1,624	16.9	532	5.5	13,716	142.9
1913	822	8.5	1,853	19.1	500	5.2	13,825	142.3
1914	730	7.4	2,015	20.4	529	5.3	14,248	143.9

† Title 28, *International List of Causes of Death*

Digitized by Google

Table 10 — STATE OF NEW YORK: *Deaths and death rates, etc.*— (*Continued*)

[Rates as printed in previous reports subject to revision]

YEAR	Cancer and Other Malignant Tumors		Cerebrospinal Meningitis		Other Diseases of the Nervous System		Diseases of the Circulatory System	
	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
1885	1,887	33.6	446	7.9	8,651	154.0	4,069	72.4
1886	2,050	35.8	572	10.0	8,790	154.0	5,238	91.7
1887	2,368	40.5	540	9.2	9,957	170.3	5,737	98.1
1888	2,497	41.9	490	8.2	11,174	187.7	6,394	107.4
1889	2,638	43.5	402	6.6	11,236	185.9	6,886	113.6
1890	2,868	46.3	474	7.7	11,598	187.8	7,306	118.4
1891	3,028	47.9	589	9.3	13,166	208.0	8,480	134.0
1892	3,152	48.9	649	10.1	14,009	217.1	9,013	139.7
1893	3,232	49.4	875	13.4	13,826	211.5	9,042	138.3
1894	3,305	49.7	489	7.4	12,948	195.5	8,451	127.6
1895	3,554	52.7	546	8.1	11,734	173.5	9,966	147.5
1896	3,789	55.3	510	7.4	11,925	174.1	10,486	153.1
1897	4,131	59.4	538	7.7	12,124	174.6	10,905	157.0
1898	4,385	62.0	696	9.9	13,312	189.0	10,511	149.3
1899	4,536	63.2	702	9.8	13,177	184.5	10,606	148.5
1900	4,871	66.9	531	7.3	12,993	178.0	10,676	146.3
1901	5,033	67.6	492	6.6	13,366	180.4	11,949	161.3
1902	4,990	65.7	456	6.0	12,964	171.1	12,889	170.1
1903	5,456	70.3	454	5.9	12,966	167.3	13,561	174.9
1904	5,697	71.9	1,706	21.5	14,142	178.2	14,209	180.3
1905	6,056	74.9	2,566	31.8	13,569	168.3	14,547	180.4
1906	6,168	74.8	1,178	14.3	13,521	163.6	15,395	186.3
1907	6,420	75.9	230	2.7	14,539	173.0	16,952	201.7
1908	6,554	77.0	539	6.3	11,980	140.3	17,232	201.6
1909	7,060	81.1	485	5.6	11,191	128.7	18,784	216.0
1910	7,522	82.1	452	4.9	11,404	124.3	19,497	212.5
1911	7,970	85.0	389	4.2	11,365	121.8	21,331	228.2
1912	8,250	86.0	338	3.5	10,993	114.3	21,661	225.3
1913	8,536	87.9	309	3.2	10,562	108.8	23,002	236.9
1914	8,906	90.0	346	3.5	11,250	113.6	26,125	263.9

Table 10 — STATE OF NEW YORK: *Deaths and death rates, etc.*— (*Continued*)

[Rates as printed in previous reports subject to revision]

YEAR	Acute Respiratory Diseases		Diarrhea and Enteritis (Under 2 Years)		Other Diseases of the Digestive System		Diseases of the Urinary System	
	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
1885	10,864	193.4	7,301	130.0	4,343	77.3	4,069	72.4
1886	11,389	199.3	7,028	123.0	5,066	88.7	4,305	75.3
1887	11,557	197.6	9,258	158.3	5,599	95.7	4,582	78.4
1888	13,756	231.1	8,774	147.4	6,146	103.3	4,926	82.8
1889	13,833	228.2	8,294	136.9	6,501	107.3	5,732	94.6
1890	18,053	292.5	8,468	137.2	7,696	124.7	5,688	92.1
1891	20,647	326.2	9,179	145.0	8,486	134.1	6,473	102.3
1892	20,432	316.7	9,185	142.4	8,920	138.3	6,502	100.8
1893	19,807	303.0	9,056	138.6	8,834	135.2	6,955	106.4
1894	15,885	239.9	8,956	135.2	8,745	132.0	6,946	104.9
1895	17,725	262.3	9,055	134.0	8,892	131.6	7,449	110.2
1896	16,820	245.6	8,776	128.1	8,955	130.7	7,770	113.4
1897	16,277	234.4	7,267	104.6	8,963	129.1	7,866	113.3
1898	16,350	232.2	8,499	120.7	10,101	143.4	8,641	122.7
1899	17,938	251.1	6,480	90.7	10,163	142.3	9,064	126.9
1900	19,232	263.5	7,959	109.0	10,644	145.8	9,501	130.2
1901	17,589	237.5	9,337	126.0	7,478	101.0	9,558	129.0
1902	16,986	224.2	8,315	109.8	7,235	95.5	9,604	126.8
1903	17,339	223.7	7,480	96.5	7,282	73.9	9,998	129.0
1904	21,132	266.3	8,329	104.9	7,866	99.1	10,815	136.3
1905	17,832	221.1	8,955	111.0	8,158	101.2	10,697	132.6
1906	20,178	244.2	8,578	103.8	8,741	105.8	11,344	137.3
1907	22,663	269.7	9,213	109.6	9,035	107.5	12,163	144.7
1908	18,477	216.2	9,111	106.6	8,398	98.3	11,329	132.5
1909	20,829	239.5	7,873	90.5	8,791	101.1	12,196	140.3
1910	21,529	234.7	9,036	98.5	9,338	101.8	12,811	139.6
1911	22,189	237.4	7,301	78.1	8,873	94.9	12,547	134.3
1912	19,732	205.2	7,035	73.2	8,432	87.7	13,429	139.7
1913	19,535	201.2	6,964	71.7	8,467	87.2	13,341	137.4
1914	18,370	185.5	6,287	63.5	8,176	82.6	12,845	129.7

Digitized by Google

Table 10 — STATE OF NEW YORK: *Deaths and death rates, etc.— (Concluded)*

[Rates as printed in previous reports subject to revision]

YEAR	The Puerperal State		Old Age		External Causes		Other Unclassified Diseases	
	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
1885	974	17.3	4,889	87.0	2,994	53.3	7,728	137.6
1886	884	15.5	5,990	104.8	3,296	57.6	8,981	157.2
1887	885	15.1	8,676	148.4	3,780	64.7	9,736	166.5
1888	1,069	18.0	7,994	134.3	3,842	64.6	11,310	190.0
1889	979	16.2	5,980	98.7	3,834	63.2	12,615	208.1
1890	928	15.0	5,484	88.8	4,542	73.4	18,728	303.4
1891	1,053	16.6	6,530	103.2	5,028	79.6	15,371	242.9
1892	1,131	17.5	6,385	99.0	5,543	86.1	14,647	227.0
1893	1,054	16.1	5,826	89.1	5,295	80.9	14,622	223.7
1894	911	13.8	5,497	83.0	5,487	82.7	15,310	231.2
1895	939	13.9	5,569	82.4	5,889	87.3	16,380	242.4
1896	972	14.2	5,377	78.5	7,022	102.6	14,835	216.6
1897	1,013	14.6	5,516	79.4	6,172	88.7	14,950	215.3
1898	920	13.1	5,524	78.4	6,520	92.4	14,641	207.9
1899	877	12.3	6,068	85.0	6,093	85.0	15,324	214.5
1900	1,136	15.6	5,402	74.0	6,714	92.2	16,134	221.0
1901	1,068	14.4	5,439	73.4	7,926	106.6	17,388	234.7
1902	1,034	13.6	4,949	65.3	7,058	93.0	15,833	209.0
1903	1,110	14.3	4,765	61.5	7,646	98.6	17,466	225.3
1904	1,272	16.0	5,120	64.5	8,822	111.5	19,858	250.2
1905	1,377	17.1	4,923	61.0	8,352	103.3	19,025	235.9
1906	1,326	16.0	4,332	52.4	8,874	107.4	18,944	229.2
1907	1,413	16.8	2,723	32.4	9,272	110.3	21,113	251.2
1908	1,335	15.6	2,516	29.4	8,811	103.1	20,553	240.5
1909	1,333	15.3	2,189	25.2	8,734	100.4	19,358	222.6
1910	1,452	15.8	1,951	21.3	9,319	101.6	21,225	231.4
1911	1,449	15.5	1,616	17.3	9,908	106.0	19,750	211.3
1912	1,256	13.1	1,795	18.7	9,219	95.9	20,662	214.9
1913	1,303	13.4	1,692	17.4	9,645	99.3	21,948	226.1
1914	1,341	13.5	1,338	13.5	9,650	97.5	20,862	210.7

Table 11 — STATE OF NEW YORK: *Deaths from cancer and other malignant tumors, showing organ or part of the body affected according to the detailed International List:* **1907-1914**

ORGAN OR PART OF THE BODY AFFECTED*	1907	1908	1909	1910	1911	1912	1913	1914
Total deaths from cancer*	**6,400**	**6,534**	**7,060**	**7,522**	**7,970**	**8,250**	**8,536**	**8,906**
(39) Cancer of the buccal cavity	206	169	267	285	310	290	291	320
(40) Cancer of stomach, liver	2,396	2,561	2,677	2,933	2,987	3,071	3,228	3,333
(41) Cancer of the peritoneum, intestines, rectum	812	849	926	1,121	1,109	1,213	1,263	1,310
(42) Cancer of the female genital organs	946	1,043	1,146	1,096	1,202	1,209	1,260	1,223
(43) Cancer of the breast	617	599	665	732	787	750	810	916
(44) Cancer of the skin	201	200	202	192	215	257	213	215
(45) Cancer of other or unspecified organs	1,222	1,113	1,177	1,163	1,360	1,460	1,471	1,589

* Classification is that of the detailed International List to which the reference numbers refer. The word "cancer" includes all malignant tumors, such as carcinoma, sarcoma, etc., as well as those indefinitely stated as "cancer."

Digitized by Google

Table 12 — STATE OF NEW YORK: *Deaths, by months, for important age periods and from important causes (condensed list); also living births and stillbirths:* **1914**

MONTH OF DEATH	AGE IN YEARS							
	Total deaths	Under 1	1 to 4	5 to 19	20 to 39	40 to 59	60 and over	Unknown
Year 1914	**145,476**	**23,731**	**9,351**	**7,737**	**22,606**	**33,114**	**48,890**	**47**
January	13,484	1,911	772	662	2,049	3,188	4,901	1
February	12,756	1,868	829	584	1,895	2,963	4,617	.....
March	15,056	2,275	1,034	729	2,251	3,321	5,437	9
April	13,311	1,990	991	691	2,162	3,076	4,395	6
May	12,984	1,974	978	752	2,140	2,883	4,253	4
June	10,663	1,571	772	664	1,814	2,456	3,386	.....
July	10,949	2,100	694	686	1,743	2,430	3,293	3
August	11,492	2,600	755	682	1,716	2,428	3,307	4
September	11,085	2,322	699	640	1,660	2,355	3,403	6
October	10,738	1,792	591	531	1,718	2,438	3,661	7
November	10,924	1,582	575	565	1,677	2,622	3,896	7
December	12,034	1,746	661	551	1,781	2,954	4,341	.....

Table 12 — STATE OF NEW YORK: *Deaths, by months, for important age periods, etc.—(Continued)*

MONTH OF DEATH	EPIDEMIC DISEASES									
	Typhoid fever	Malaria	Smallpox	Measles	Scarlet fever	Whooping cough	Diphtheria and croup	Influenza	Erysipelas	Cerebro spinal meningitis
Year 1914	**878**	**51**	**3**	**839**	**687**	**730**	**2,015**	**910**	**529**	**346**
January	69	3	2	107	66	59	199	142	49	24
February	59	2	.....	101	95	53	213	139	76	26
March	51	7	.....	119	105	79	240	249	85	33
April	64	2	.....	125	113	95	213	127	99	25
May	62	7	.....	144	97	90	197	70	56	40
June	43	4	1	102	58	64	154	28	39	50
July	67	10	.....	39	32	56	141	16	32	20
August	70	1	.....	36	28	73	82	11	13	27
September	116	8	.....	8	19	49	92	14	12	27
October	117	1	.....	14	18	45	128	22	14	27
November	97	3	.....	17	26	33	164	33	26	23
December	63	3	.....	27	30	34	192	59	28	24

Digitized by Google

Table 12 — STATE OF NEW YORK: *Deaths, by months, for important age periods, etc.—(Continued)*

MONTH OF DEATH	Pulmonary tuberculosis	Other forms of tuberculosis	Cancer and other malignant tumors	Diabetes	Other general diseases	Diseases of the nervous system	Diseases of the circulatory system	Bronchopneumonia
Year 1914	**14,586**	**1,973**	**8,906**	**1,943**	**4,597**	**11,250**	**26,125**	**6,729**
January	1,336	156	798	191	381	1,075	2,583	775
February	1,242	178	662	176	341	965	2,449	750
March	1,524	201	756	169	430	1,178	2,757	939
April	1,389	198	759	187	419	988	2,386	780
May	1,354	194	751	157	431	988	2,298	669
June	1,222	170	725	161	362	822	1,766	447
July	1,101	177	730	120	391	848	1,832	352
August	1,040	164	760	150	424	811	1,849	301
September	1,109	147	702	170	379	774	1,822	275
October	1,021	122	758	162	351	855	1,970	330
November	1,034	132	710	147	349	919	2,096	474
December	1,214	134	795	153	339	1,007	2,322	638

Table 12 — STATE OF NEW YORK: *Deaths, by months, for important age periods, etc.—(Continued)*

MONTH OF DEATH	Lobar pneumonia, etc.	Other diseases of the respiratory system	Diarrhea and Enteritis		Other diseases of the digestive system	Bright's disease and nephritis	Other diseases of the genito-urinary system	The puerperal state
			Under 2 years	Over 2 years				
Year 1914	**8,790**	**2,860**	**6,287**	**1,102**	**7,074**	**10,296**	**2,549**	**1,341**
January	1,076	288	234	62	646	960	233	109
February	1,095	306	221	64	585	871	232	137
March	1,453	415	250	59	671	977	228	167
April	1,004	302	239	80	596	871	246	150
May	841	229	282	77	647	934	225	142
June	480	170	294	62	483	841	229	113
July	289	159	905	96	575	740	212	83
August	248	160	1,500	205	583	750	199	85
September	325	163	1,224	171	555	768	167	75
October	451	183	645	118	578	747	186	99
November	632	222	283	60	588	865	192	71
December	896	263	210	48	567	972	200	110

Digitized by Google

Table 12 — STATE OF NEW YORK: *Deaths, by months, for important age periods, etc.*—(*Concluded*)

MONTH OF DEATH	Congenital debility	Accidents	Suicides	Homicides	Ill-defined diseases	All other causes	Births	
							Total living births	Still-births
Year 1914	**2,552**	**7,725**	**1,516**	**409**	**196**	**9,691**	**240,038**	**10,692**
January	196	619	134	34	9	869	19,994	856
February	191	492	106	22	9	878	18,365	903
March	215	553	132	25	21	968	20,670	1,057
April	199	583	132	36	26	878	19,760	883
May	264	709	139	45	7	843	20,211	944
June	168	715	119	26	17	728	20,221	852
July	181	810	142	33	11	749	20,290	880
August	277	759	119	43	17	707	21,494	857
September	281	701	131	44	17	740	20,186	771
October	224	635	138	39	15	725	20,534	881
November	204	601	106	40	24	753	18,559	891
December	152	548	118	22	23	853	19,734	918

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OVER, OTHER VILLAGES, AND TOWNS): *Deaths for important living births and stillbirths:* 1914

[Deaths in State Institutions having as many as 20 deaths in 1914 separately stated]

STATE AND SUBDIVISIONS, BY COUNTIES	Total deaths	Age in Years: Under 1	1 to 4	5 to 19	20 to 39	40 to 59	60 and over	Unknown
STATE OF NEW YORK	145,476	23,731	9,251	7,737	22,606	33,114	48,890	47
New York City	74,803	13,295	6,236	4,458	13,337	18,582	18,595	.....
Remainder of State	70,673	10,436	3,115	3,279	9,269	14,232	30,295	47
Cities	35,328	6,305	1,937	1,832	5,286	7,921	12,037	7
Villages	11,627	1,419	438	520	1,239	2,142	5,810	9
Towns	23,718	2,709	740	927	2,694	4,169	12,448	31
ALBANY COUNTY	3,133	490	155	119	448	747	1,174	.....
Albany, city	1,993	267	68	82	327	510	739	.....
Cohoes, city	394	96	33	14	45	99	107	.....
Watervliet, city	230	40	21	10	25	57	77	.....
Green Island, village*	73	12	12	5	7	14	23	.....
Other villages	18	2	.....	.....	1	3	12	.....
Towns	425	73	21	8	43	64	216	.....
ALLEGANY COUNTY	568	49	15	18	36	95	354	1
Wellsville, village	77	11	2	4	5	17	38	.....
Other villages	149	10	2	8	6	28	95	.....
Towns	342	28	11	6	25	50	221	1
BROOME COUNTY	1,583	228	75	80	212	340	646	2
Binghamton, city	1,017	165	53	48	146	341	363	1
—*Binghamton State Hospital*	*194*	.....	.....	.....	*23*	*67*	*104*	.....
Lestershire, village	93	8	6	9	26	22	21	1
Other villages	153	21	5	10	16	31	70	.....
Towns	320	34	11	13	24	46	192	.....
CATTARAUGUS COUNTY	943	131	33	56	112	159	450	2
Olean, city	251	34	12	25	41	49	89	1
Salamanca, city	103	24	4	8	22	17	28	.....
Villages	176	18	5	9	17	31	95	1
Towns	413	55	12	14	32	62	238	.....
CAYUGA COUNTY	1,050	122	41	40	115	210	522	.....
Auburn, city	554	85	31	25	75	126	212	.....
Villages	106	5	.....	4	10	21	66	.....
Towns	390	32	10	11	30	63	244	.....
CHAUTAUQUA COUNTY	1,459	197	70	75	174	229	714	.....
Dunkirk, city	236	54	21	14	34	39	74	.....
Jamestown, city	427	58	27	19	50	94	170	.....
Fredonia, village	73	8	2	3	8	7	45	.....
Silver Creek, village	33	9	1	4	4	3	12	.....
Westfield, village	27	.....	3	.....	5	4	15	.....
Other villages	153	13	3	9	15	28	85	.....
Towns	510	55	13	26	49	54	313	.....
CHEMUNG COUNTY	890	121	27	24	110	188	418	2
Elmira, city	579	85	16	20	81	125	252	.....
Elmira Heights, village	44	10	2	.....	5	6	20	1
Other villages	42	2	1	.....	4	11	24	.....
Towns	225	24	8	4	20	46	122	1
CHENANGO COUNTY	556	42	17	20	48	74	355	.....
Norwich, village	140	10	5	6	13	26	80	.....
Other villages	113	6	3	4	9	12	79	.....
Towns	303	26	9	10	26	36	196	.....
—*Womans Relief Corps Home, Oxford*	*24*	.....	.....	.....	.....	.....	*24*	.....
CLINTON COUNTY	635	116	25	29	87	89	289	.....
Plattsburg, city	193	30	5	10	33	33	82	.....
Villages	92	12	3	2	15	16	44	.....
Towns	350	74	17	17	39	40	163	.....

* Coterminous with Green Island town — the only instance in the State.

Digitized by Google

OF STATE (BY COUNTIES, CITIES AND VILLAGES OF 2,500 AND *age periods and from important causes (condensed list); also*

STATE AND SUBDIVISIONS, BY COUNTIES	Epidemic Diseases									
	Typhoid fever	Malaria	Smallpox	Measles	Scarlet fever	Whooping cough	Diphtheria and croup	Influenza	Erysipelas	Cerebrospinal meningitis
STATE OF NEW YORK	878	51	3	839	687	730	2,015	910	529	346
New York City	334	21	....	559	452	279	1,492	340	323	211
Remainder of State	544	30	3	280	235	451	523	570	206	135
Cities	315	11	2	182	146	257	340	193	112	84
Villages	81	3	1	34	36	82	72	113	29	23
Towns	148	16	....	64	53	112	111	264	65	28
ALBANY COUNTY	29	4	....	9	10	31	27	18	5	11
Albany, city	17	2	....	3	8	6	13	15	5	7
Cohoes, city	5	....	....	2	1	6	6	....	....	3
Watervliet, city	5	1	....	3	....	7	....	....	....	....
Green Island, village*	1	....	....	....	1	3	2	1	....	....
Other villages	....	....	....	1	....	....	....	....	....	....
Towns	1	1	....	....	....	9	6	2	....	1
ALLEGANY COUNTY	7	....	....	....	....	1	....	11	1	1
Wellsville, village	4	....	....	....	....	1	....	1	....	1
Other villages	....	....	....	....	....	....	....	1	....	....
Towns	3	....	....	....	....	....	....	9	1	....
BROOME COUNTY	10	1	....	19	5	6	12	20	8	2
Binghamton, city	7	1	....	15	3	4	9	10	5	1
—*Binghamton State Hospital*	....	....	....	....	....	....	....	....	1	....
Lestershire, village	....	....	....	....	....	....	1	2	1	1
Other villages	3	....	....	2	2	....	1	2	2	....
Towns	....	....	....	2	....	2	1	6	....	....
CATTARAUGUS COUNTY	4	....	....	4	2	7	3	13	4	1
Olean, city	1	....	....	2	....	3	1	1	1	1
Salamanca, city	....	....	....	....	....	....	1	3	1	....
Villages	2	....	....	1	....	1	....	....	....	....
Towns	1	....	....	1	2	3	1	9	2	....
CAYUGA COUNTY	9	....	....	4	2	1	6	6	4	2
Auburn, city	4	....	....	3	2	1	4	1	1	2
Villages	2	....	....	....	....	....	1	2	1	....
Towns	3	....	....	1	....	....	1	3	2	....
CHAUTAUQUA COUNTY	15	....	1	6	4	12	10	13	6	1
Dunkirk, city	8	....	....	4	2	9	4	2	1	....
Jamestown, city	3	....	....	2	....	2	4	1	....	....
Fredonia, village	1	....	....	....	....	....	....	....	....	....
Silver Creek, village	1	....	....	....	1	....	....	1	1	....
Westfield, village	....	....	....	....	....	....	....	1	....	....
Other villages	....	....	1	....	....	....	....	1	2	1
Towns	2	....	....	....	1	1	2	7	2	....
CHEMUNG COUNTY	6	....	....	2	....	1	6	7	2	2
Elmira, city	5	....	....	1	....	1	6	5	2	2
Elmira Heights, village	....	....	....	1	....	....	....	....	....	....
Other villages	1	....	....	....	....	....	....	1	....	....
Towns	....	....	....	....	....	....	....	1	....	....
CHENANGO COUNTY	3	1	....	....	....	....	1	2	1	....
Norwich, village	1	....	....	....	....	....	....	....	1	....
Other villages	....	....	....	....	....	....	....	....	....	....
Towns	2	1	....	....	....	....	1	2	....	....
—*Womens Relief Corps Home, Oxford*	....	....	....	....	....	....	....	....	....	....
CLINTON COUNTY	3	....	....	1	1	3	4	8	1	1
Plattsburg, city	1	....	....	1	....	....	1	1	1	....
Villages	....	....	....	....	....	....	....	1	....	....
Towns	2	....	....	....	1	3	3	6	....	1

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.*—(*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Pulmonary tuberculosis	Other forms of tuberculosis	Cancer and other malignant tumors	Diabetes	Other general diseases	Diseases of the nervous system	Diseases of the circulatory system	Bronchopneumonia
STATE OF NEW YORK	14,586	1,973	8,906	1,949	4,697	11,250	26,125	6,720
New York City	9,138	1,151	4,462	980	2,386	2,833	13,396	4,529
Remainder of State	5,448	822	4,444	963	2,311	8,417	12,729	2,191
Cities	2,789	487	2,218	474	1,194	3,479	5,812	1,272
Villages	819	122	801	169	379	1,527	2,190	285
Towns	1,840	213	1,425	320	738	3,411	4,717	624
ALBANY COUNTY	338	44	227	49	84	294	539	93
Albany, city	248	34	159	33	59	170	368	40
Cohoes, city	35	3	24	7	6	30	44	19
Watervliet, city	26	1	17	2	8	18	35	17
Green Island, village*	4	1	4	1	.....	4	8	6
Other villages	2	.....	1	.....	.....	5	4	.....
Towns	23	5	22	6	11	61	79	11
ALLEGANY COUNTY	11	4	43	11	21	84	131	10
Wellsville, village	3	1	11	.....	2	6	15	3
Other villages	1	2	11	3	6	24	42	1
Towns	7	1	21	8	13	54	74	6
BROOME COUNTY	85	20	80	14	51	191	280	41
Binghamton, city	66	14	47	7	30	110	184	30
—*Binghamton State Hospital*	*17*	*1*	*13*	.....	*8*	*24*	*52*	*12*
Lestershire, village	4	4	5	2	8	7	8	1
Other villages	4	1	11	2	4	23	22	3
Towns	11	1	17	3	9	51	66	7
CATTARAUGUS COUNTY	49	9	68	20	33	112	182	17
Olean, city	12	4	14	3	9	28	43	7
Salamanca, city	6	1	2	2	1	18	17	2
Villages	13	2	12	5	5	22	35	3
Towns	18	2	40	10	18	47	87	5
CAYUGA COUNTY	56	12	75	17	23	148	230	16
Auburn, city	39	6	37	8	13	69	109	6
Villages	5	1	8	4	6	19	26	3
Towns	12	5	30	5	4	60	97	7
CHAUTAUQUA COUNTY	74	11	117	17	47	170	285	23
Dunkirk, city	12	3	8	.....	11	17	35	3
Jamestown, city	26	2	48	7	15	39	75	8
Fredonia, village	4	.....	7	1	.....	8	26	.....
Silver Creek, village	5	1	3	.....	.....	5	3	1
Westfield, village	.....	1	1	1	.....	1	6	.....
Other villages	5	4	16	3	2	29	32	5
Towns	22	.....	34	5	19	71	108	6
CHEMUNG COUNTY	55	10	64	9	27	88	166	23
Elmira, city	27	7	41	9	23	49	101	14
Elmira Heights, village	1	.....	1	.....	2	2	9	3
Other villages	2	.....	8	.....	.....	5	9	.....
Towns	25	3	14	.....	2	31	47	6
CHENANGO COUNTY	23	4	25	11	21	94	115	12
Norwich, village	8	.....	4	3	2	23	34	3
Other villages	6	.....	7	1	7	17	25	.....
Towns	9	4	14	7	12	54	56	9
—*Womans Relief Corps Home, Oxford*	.....	.....	*2*	*1*	*2*	*5*	*3*	*1*
CLINTON COUNTY	41	9	22	8	19	74	121	16
Plattsburg, city	11	3	7	1	5	22	34	2
Villages	17	2	1	.....	3	16	15	3
Towns	13	4	14	7	11	36	72	10

* Coterminous with Green Island town — the only instance in the State.

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.*—(*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Lobar pneumonia, etc.	Other diseases of the respiratory system	Diarrhea and Enteritis		Other diseases of the digestive system	Bright's disease and nephritis	Other diseases of the genito-urinary system	The puerperal state
			Under 2 years	Over 2 years				
STATE OF NEW YORK	8,790	2,360	6,287	1,102	7,074	10,296	2,549	1,341
New York City	5,148	1,247	3,427	424	3,269	5,099	1,239	679
Remainder of State	3,642	1,618	2,860	678	3,805	5,197	1,310	662
Cities	1,841	742	1,881	292	2,058	2,576	744	394
Villages	621	278	373	133	606	850	200	90
Towns	1,180	593	606	253	1,141	1,771	366	178
ALBANY COUNTY	165	62	133	27	188	253	49	34
Albany, city	95	40	48	17	132	177	28	21
Cohoes, city	25	7	39	5	32	19	7	3
Watervliet, city	14	3	15	2	3	11	7	4
Green Island village*	7	2	8	.....	8	8	.....	.....
Other villages	1	.....	.....	.....	.....	1	1	.....
Towns	22	10	23	3	18	37	6	6
ALLEGANY COUNTY	25	10	9	9	38	52	19	5
Wellsville, village	2	3	2	.....	4	8	1	.....
Other villages	6	4	1	5	11	11	6	1
Towns	17	3	6	4	23	33	12	4
BROOME COUNTY	84	42	64	21	92	122	32	18
Binghamton, city	54	38	45	13	52	75	21	10
—*Binghamton State Hospital*	*17*	*6*	.....	*5*	*5*	*34*	*1*	.....
Lestershire, village	6	3	2	2	9	4	3	3
Other villages	6	2	10	2	8	15	6	3
Towns	18	5	7	4	23	29	3	2
CATTARAUGUS COUNTY	47	27	22	8	69	49	12	7
Olean, city	15	10	8	2	23	9	5	3
Salamanca, city	2	4	4	1	7	5	1	1
Villages	13	4	1	2	12	11	2	1
Towns	17	9	9	3	26	24	5	2
CAYUGA COUNTY	45	22	42	13	48	66	19	6
Auburn, city	25	15	35	5	31	30	15	3
Villages	1	3	1	1	1	10	.....	.....
Towns	19	13	7	7	16	26	4	3
CHAUTAUQUA COUNTY	55	35	35	18	95	85	20	13
Dunkirk, city	8	4	14	5	17	6	4	2
Jamestown, city	20	10	11	3	31	25	8	5
Fredonia, village	2	3	2	1	2	2	2	.....
Silver Creek, village	2	.....	1	.....	1	.....	.....	1
Westfield, village	.....	.....	.....	1	2	3	.....	2
Other villages	4	4	1	.....	7	13	4	.....
Towns	19	14	6	8	35	36	11	3
CHEMUNG COUNTY	48	12	24	11	55	108	18	10
Elmira, city	28	9	15	6	39	76	18	9
Elmira Heights, village	3	.....	2	2	1	9	1	.....
Other villages	.....	1	1	1	2	5	1	.....
Towns	17	2	6	2	13	18	3	1
CHENANGO COUNTY	30	15	5	5	33	51	14	6
Norwich, village	11	3	2	1	6	12	5	1
Other villages	7	2	.....	2	11	10	2	1
Towns	21	10	3	2	16	29	7	4
—*Womans Relief Corps Home, Oxford*	*1*	*1*	.....	.....	.....	*1*	.....	.....
CLINTON COUNTY	39	15	29	4	41	40	7	12
Plattsburg, city	13	6	7	.....	19	11	4	4
Villages	5	1	.....	.....	4	4	.....	1
Towns	21	8	22	4	18	25	3	7

* Coterminous with Green Island town — the only instance in the State.

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.—(Continued)*

STATE AND SUBDIVISIONS, BY COUNTIES	Congenital debility	Accidents	Suicides	Homicides	Ill-defined diseases	All other causes	Births	
							Total living births	Stillbirths
STATE OF NEW YORK	2,552	7,725	1,516	409	196	9,691	240,038	10,693
New York City	1,682	3,922	805	256	43	4,677	140,528	6,009
Remainder of State	870	3,803	711	153	153	5,014	99,510	4,684
Cities	452	1,855	349	85	47	2,641	55,898	2,259
Villages	155	617	116	20	28	765	14,965	695
Towns	263	1,331	246	48	78	1,605	28,647	1,129
ALBANY COUNTY	50	132	22	8	7	191	3,520	152
Albany, city	30	72	12	5	5	123	2,115	90
Cohoes, city	6	21	4	1	....	28	554	29
Watervliet, city	7	10	1	....	....	12	268	10
Green Island, village*	1	5	1	1	....	1	92	3
Other villages	2	....	....	....	....	....	17	1
Towns	4	24	4	1	2	27	474	19
ALLEGANY COUNTY	5	24	1	1	6	28	712	31
Wellsville, village	1	4	....	....	....	4	73	1
Other villages	1	5	....	....	....	7	126	4
Towns	3	15	1	1	6	17	513	26
BROOME COUNTY	24	78	21	2	2	128	1,995	86
Binghamton, city	16	54	14	....	2	80	1,294	47
—*Binghamton State Hospital*	....	4	1	....	....	1	....	....
Lestershire, village	1	3	2	2	....	9	127	7
Other villages	3	4	2	....	....	10	220	15
Towns	4	17	3	....	....	29	354	17
CATTARAUGUS COUNTY	11	74	14	4	1	70	1,422	53
Olean, city	3	22	3	2	....	16	461	18
Salamanca, city	1	13	2	1	....	10	186	7
Villages	4	13	2	1	....	9	202	9
Towns	3	26	7	....	1	35	573	19
CAYUGA COUNTY	18	59	17	1	1	71	1,206	48
Auburn, city	14	26	7	....	1	41	750	26
Villages	....	5	3	....	....	5	68	3
Towns	4	28	7	1	....	25	388	19
CHAUTAUQUA COUNTY	18	106	16	3	7	132	2,419	71
Dunkirk, city	3	24	2	....	1	27	548	21
Jamestown, city	4	29	6	1	....	42	795	15
Fredonia, village	....	2	1	1	....	8	113	6
Silver Creek, village	....	3	....	....	....	3	89	2
Westfield, village	....	6	....	1	....	1	79	4
Other villages	2	6	1	....	....	10	158	20
Towns	9	36	6	....	6	41	637	3
CHEMUNG COUNTY	9	57	7	....	2	61	1,123	62
Elmira, city	8	40	3	....	1	39	801	51
Elmira Heights, village	....	1	....	....	....	5	70	2
Other villages	....	1	....	....	....	4	37	3
Towns	1	15	4	....	1	13	215	6
CHENANGO COUNTY	4	31	7	....	1	32	627	20
Norwich, village	4	12	1	....	....	3	146	3
Other villages	....	6	1	....	....	8	107	5
Towns	....	13	5	....	1	21	374	12
—*Womans Relief Corps Home, Oxford*	....	....	....	....	....	2	....	....
CLINTON COUNTY	7	27	4	1	9	68	1,067	35
Plattsburg, city	1	10	3	1	1	22	244	10
Villages	4	1	1	....	3	10	98	1
Towns	2	16	....	....	5	36	725	24

*Coterminous with Green Island town—the only instance in the State.

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.*—(*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Total deaths	Age in Years: Under 1	1 to 4	5 to 19	20 to 39	40 to 59	60 and over	Unknown
COLUMBIA COUNTY	702	77	27	30	72	114	382	.....
Hudson, city	230	32	10	17	30	47	94	.....
Villages	88	12	2	2	9	9	54	.....
Towns	384	33	15	11	33	58	234	.....
CORTLAND COUNTY	476	57	15	13	39	99	252	1
Cortland, city	217	32	10	7	18	56	94	.....
Homer, village	37	3	.....	1	2	3	28	.....
Other villages	32	2	.....	.....	6	9	15	.....
Towns	190	20	5	5	13	31	115	1
DELAWARE COUNTY	676	75	24	27	53	133	363	1
Sidney, village	44	1	2	4	5	11	21	.....
Walton, village	51	7	2	.....	5	9	28	.....
Other villages	121	13	5	1	8	21	73	.....
Towns	460	54	15	22	35	92	241	1
DUTCHESS COUNTY	1,803	199	74	63	242	398	827	.....
Beacon, city	202	24	10	8	39	46	75	.....
—*Matteawan State Hospital*	*46*	.....	.....	.....	*14*	*18*	*14*	.....
Poughkeepsie, city	516	71	42	21	56	104	222	.....
Wappingers Falls, village	63	20	2	2	5	9	25	.....
Other villages	124	13	3	6	8	24	70	.....
Towns	898	71	17	26	134	215	435	.....
—*Hudson River State Hospital*	*291*	.....	.....	*1*	*58*	*90*	*142*	.....
ERIE COUNTY	8,563	1,968	486	455	1,312	1,871	2,471	.....
Buffalo, city	7,037	1,524	416	405	1,157	1,642	1,893	.....
—*Buffalo State Hospital*	*157*	.....	*1*	.....	*20*	*55*	*81*	.....
Lackawanna, city	323	240	28	6	25	15	9	.....
Tonawanda, city	101	24	2	4	17	16	38	.....
Depew, village	68	32	8	2	10	11	5	.....
East Aurora, village	43	3	1	1	2	4	32	.....
Lancaster, village	61	13	4	5	8	15	16	.....
Other villages	170	22	4	4	14	31	95	.....
Towns	760	110	23	28	73	137	383	.....
—*Gowanda State Hospital*	*57*	.....	.....	.....	*8*	*16*	*33*	.....
ESSEX COUNTY	529	78	17	26	82	98	228	.....
Villages*	145	16	3	8	25	31	62	.....
Towns	384	62	14	18	57	67	166	.....
FRANKLIN COUNTY	765	139	54	43	167	137	224	1
Malone, village	128	22	8	10	13	20	55	.....
Saranac Lake, village	167	16	7	4	94	36	10	.....
*Saranac Lake, village**	*193*	*19*	*8*	*5*	*105*	*42*	*14*	.....
Tupper Lake, village	34	10	8	4	3	6	3	.....
Other villages	42	8	1	.....	6	5	22	.....
Towns	394	83	30	25	51	70	134	1
FULTON COUNTY	700	82	23	24	70	127	374	.....
Gloversville, city	331	43	11	14	35	67	161	.....
Johnstown, city	133	15	4	6	6	31	71	.....
Villages†	38	3	1	2	6	3	23	.....
Towns	198	21	7	2	23	26	119	.....
GENESEE COUNTY	577	83	19	14	67	93	300	1
Batavia, village	217	46	7	5	33	43	83	.....
LeRoy, village	52	7	4	2	5	2	32	.....
Other villages	45	6	2	.....	4	6	27	.....
Towns	263	24	6	7	25	42	158	1

* Saranac Lake village, partly in Essex county but chiefly in Franklin county, is given as a whole under the latter (*italic line*).

† Dolgeville village, partly in Fulton county but chiefly in Herkimer county, is complete under the latter except for 3 births which are compiled under Fulton county villages.

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914** —

STATE AND SUBDIVISIONS, BY COUNTIES	Epidemic Diseases									
	Typhoid fever	Malaria	Smallpox	Measles	Scarlet fever	Whooping cough	Diphtheria and croup	Influenza	Erysipelas	Cerebrospinal meningitis
COLUMBIA COUNTY	7	1	....	1	7	2	6	7	3	1
Hudson, city	4	1	....	....	7	....	1	2	1	1
Villages	1	....	....	....	....	....	2	1	....	....
Towns	2	....	....	1	....	2	3	4	2	....
CORTLAND COUNTY	3	....	....	....	2	2	2	7	1	....
Cortland, city	1	....	....	....	....	....	1	2	....	....
Homer, village	....	....	....	....	....	1	....	....	....	....
Other villages	....	....	....	....	1	....	....	1	....	....
Towns	2	....	....	....	1	1	1	4	1	....
DELAWARE COUNTY	6	....	....	13	....	1	1	5	2	3
Sidney, village	1	....	....	....	....	....	....	....	....	....
Walton, village	....	....	....	1	....	1	....	1	....	....
Other villages	....	....	....	2	....	....	....	2	....	....
Towns	5	....	....	10	....	....	1	2	2	3
DUTCHESS COUNTY	5	2	....	17	8	1	5	8	10	2
Beacon, city	1	....	....	1	....	....	1	2	2	....
—*Matteawan State Hospital*	....	....	....	....	....	....	....	....	....	....
Poughkeepsie, city	1	....	....	13	2	1	2	2	2	2
Wappingers Falls, village	....	....	....	....	....	....	....	....	....	....
Other villages	1	....	....	....	....	....	....	....	1	....
Towns	2	2	....	3	6	....	2	4	5	....
—*Hudson River State Hospital*	*1*	*1*	....	*1*	....	....	....	....	3	....
ERIE COUNTY	32	1	....	14	27	108	71	27	26	11
Buffalo, city	73	1	....	11	26	76	66	12	22	8
—*Buffalo State Hospital*	*2*	....	....	....	*1*	....	....	....	*2*	....
Lackawanna, city	1	....	....	....	....	16	2	1	2	1
Tonawanda, city	4	....	....	....	....	1	1	....	....	....
Depew, village	....	....	....	....	....	6	....	....	....	....
East Aurora, village	1	....	....	....	....	....	....	....	....	....
Lancaster, village	....	....	....	....	....	2	....	....	....	....
Other villages	1	....	....	....	....	1	....	6	....	1
Towns	2	....	....	3	1	6	2	8	2	1
—*Gowanda State Hospital*	....	....	....	....	....	....	....	....	....	....
ESSEX COUNTY	3	....	....	....	....	....	6	6	....	....
Villages *	....	....	....	....	....	....	3	1	....	....
Towns	3	....	....	....	....	....	3	5	....	....
FRANKLIN COUNTY	5	....	....	....	4	17	2	9	1	....
Malone, village	3	....	....	....	....	2	....	....	....	....
Saranac Lake, village	....	....	....	....	....	2	....	....	....	....
Saranac Lake, village *	....	....	....	....	....	2	....	....	....	....
Tupper Lake, village	....	....	....	....	....	2	1	....	....	....
Other villages	....	....	....	....	....	1	....	....	....	....
Towns	2	....	....	....	4	10	1	9	1	....
FULTON COUNTY	6	....	....	....	2	2	6	7	1	....
Gloversville, city	4	....	....	....	1	1	4	....	1	....
Johnstown, city	1	....	....	....	1	1	2	2	....	....
Villages†	....	....	....	....	....	....	....	....	....	....
Towns	1	....	....	....	....	....	....	5	....	....
GENESEE COUNTY	3	....	....	1	3	1	....	14	3	....
Batavia, village	....	....	....	....	1	....	....	6	2	....
LeRoy, village	1	....	....	1	....	....	....	1	....	....
Other villages	....	....	....	....	....	....	....	3	....	....
Towns	2	....	....	....	2	1	....	4	1	....

* Saranac Lake village, partly in Essex county but chiefly in Franklin county, is given as a whole under the latter (*italic line*).

† Dolgeville village, partly in Fulton county but chiefly in Herkimer county, is complete under the latter except for 3 births which are compiled under Fulton county villages.

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914 —** *(Continued)*

STATE AND SUBDIVISIONS, BY COUNTIES	Pulmonary tuberculosis	Other forms of tuberculosis	Cancer and other malignant tumors	Diabetes	Other general diseases	Diseases of the nervous system	Diseases of the circulatory system	Broncho pneumonia
COLUMBIA COUNTY	48	7	38	8	18	81	125	14
Hudson, city	19	3	16	3	4	21	35	2
Villages	8	.....	5	1	3	11	13	4
Towns	21	4	17	4	11	49	77	8
CORTLAND COUNTY	20	8	30	5	17	66	87	7
Cortland, city	9	7	12	1	8	28	28	1
Homer, village	1	.....	2	.....	3	8	6	1
Other villages	4	.....	1	.....	1	2	10	.....
Towns	6	1	15	4	5	28	43	5
DELAWARE COUNTY	26	4	62	8	29	111	134	16
Sidney, village	1	.....	3	1	6	8	8	1
Walton, village	3	.....	5	.....	2	10	11	.....
Other villages	5	1	17	1	4	23	22	3
Towns	17	3	37	6	17	70	93	12
DUTCHESS COUNTY	178	34	92	25	60	281	359	78
Beacon, city	32	3	7	2	7	34	30	4
—Matteawan State Hospital	*14*	*1*	.....	.....	.....	*15*	*5*	*3*
Poughkeepsie, city	24	9	30	11	23	74	93	15
Wappingers Falls, village	4	3	2	1	3	4	14	2
Other villages	10	3	13	1	3	21	32	2
Towns	108	16	40	10	24	148	190	55
—Hudson River State Hospital	*51*	*12*	*4*	*1*	*2*	*62*	*68*	*37*
ERIE COUNTY	724	106	507	98	403	742	1,302	433
Buffalo, city	640	99	432	90	324	594	1,034	346
Buffalo State Hospital	*15*	.....	*4*	*1*	*4*	*40*	*37*	*14*
Lackawanna, city	5	.....	4	.....	33	8	19	38
Tonawanda, city	6	2	7	1	4	12	22	2
Depew, village	3	2	3	.....	4	4	6	4
East Aurora, village	1	.....	7	.....	.....	4	10	.....
Lancaster, village	8	1	3	1	2	9	7	1
Other villages	11	.....	7	.....	10	14	47	5
Towns	41	2	44	6	26	97	156	37
Gowanda State Hospital	*9*	.....	*6*	.....	*2*	*22*	*7*	*2*
ESSEX COUNTY	59	8	38	2	15	66	90	9
Villages*	24	.....	10	.....	4	15	26	1
Towns	35	8	28	2	11	51	64	8
FRANKLIN COUNTY	169	13	42	12	10	63	97	17
Malone, village	8	4	9	1	.....	14	24	1
Saranac Lake, village	113	.....	4	2	2	3	8	2
*Saranac Lake, village**	*131*	.....	*4*	*2*	*3*	*3*	*8*	*2*
Tupper Lake, village	1	.....	.....	.....	.....	4	6	1
Other villages	6	.....	3	.....	.....	7	5	.....
Towns	41	9	26	9	8	35	54	13
FULTON COUNTY	46	5	46	9	20	104	131	17
Gloversville, city	24	2	20	3	9	54	54	7
Johnstown, city	5	.....	12	2	7	21	27	5
Villages†	.....	.....	.....	.....	2	5	8	1
Towns	17	3	14	4	2	24	42	4
GENESEE COUNTY	25	3	45	10	10	77	97	15
Batavia, village	7	.....	12	3	7	24	26	6
LeRoy, village	3	1	2	2	.....	14	8	.....
Other villages	2	.....	2	.....	1	1	14	2
Towns	13	2	29	5	2	38	49	7

* Saranac Lake village, partly in Essex county but chiefly in Franklin county, is given as a whole under the latter (*italic line*).

† Dolgeville village, partly in Fulton county but chiefly in Herkimer county, is complete under the latter except for 3 births which are compiled under Fulton county villages.

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914 —** *(Continued)*

STATE AND SUBDIVISIONS, BY COUNTIES	Lobar pneumonia, etc.	Other diseases of the respiratory system	Diarrhea and Enteritis		Other diseases of the digestive system	Bright's disease and nephritis	Other diseases of the genito-urinary system	The puerperal state
			Under 2 years	Over 2 years				
COLUMBIA COUNTY	36	17	18	10	36	67	12	7
Hudson, city	13	11	10	1	17	14	4	3
Villages	.....	2	1	3	5	10	2	2
Towns	23	4	7	6	14	43	6	2
CORTLAND COUNTY	24	13	14	3	28	38	9	4
Cortland, city	15	4	10	3	11	20	5	3
Homer, village	3	3	.....	.....	3	.....	.....	.....
Other villages	.....	1	1	.....	.....	6	.....	.....
Towns	6	5	3	.....	14	12	4	1
DELAWARE COUNTY	24	17	12	9	37	46	7	6
Sidney, village	.....	.....	.....	.....	4	.....	.....	1
Walton, village	1	1	1	.....	2	3	.....	.....
Other villages	6	3	1	2	9	10	.....	1
Towns	17	13	10	7	22	33	7	4
DUTCHESS COUNTY	85	28	45	25	88	117	27	14
Beacon, city	3	3	4	1	10	25	5	2
—Matteawan State Hospital	.....	.....	.....	*1*	*1*	*5*	*1*	.....
Poughkeepsie, city	35	7	20	12	27	41	5	3
Wappingers Falls, village	7	.....	7	.....	.....	2	3	.....
Other villages	1	.....	4	1	8	7	2	.....
Towns	39	18	10	11	43	42	12	9
—Hudson River State Hospital	*11*	*9*	.....	*6*	*12*	*5*	*1*	.....
ERIE COUNTY	401	173	678	61	433	597	152	90
Buffalo, city	325	145	525	47	373	529	133	81
—Buffalo State Hospital	*16*	*2*	.....	*3*	*2*	*12*	.....	.....
Lackawanna, city	25	.....	86	1	6	2	3	.....
Tonawanda, city	4	3	5	.....	2	1	2	.....
Depew, village	1	2	16	.....	3	3	.....	1
East Aurora, village	3	.....	1	1	2	6	.....	.....
Lancaster, village	1	.....	7	2	3	2	.....	1
Other villages	6	1	5	1	12	13	2	1
Towns	36	22	33	9	32	41	12	6
—Gowanda State Hospital	*1*	*1*	.....	.....	*3*	*2*	.....	.....
ESSEX COUNTY	18	11	11	9	29	33	10	7
Villages *	5	3	2	5	6	13	6	4
Towns	13	8	9	4	23	20	4	3
FRANKLIN COUNTY	43	20	37	10	20	35	9	11
Malone, village	12	3	11	1	4	5	3	1
Saranac Lake, village	1	4	.....	.....	.....	3	1	2
Saranac Lake, village *	*2*	*5*	*1*	.....	.....	*3*	*2*	*3*
Tupper Lake, village	3	2	5	.....	1	1	.....	.....
Other villages	3	2	1	1	2	1	.....	1
Towns	24	9	20	8	13	25	5	7
FULTON COUNTY	41	17	13	4	38	66	20	10
Gloversville, city	16	6	5	1	23	27	18	6
Johnstown, city	8	7	1	.....	5	11	1	1
Villages †	5	2	2	1	2	6	.....	1
Towns	12	2	5	2	8	22	1	2
GENESEE COUNTY	29	16	9	1	39	41	22	5
Batavia, village	11	5	6	.....	16	20	12	2
LeRoy, village	3	5	.....	.....	2	1	2	1
Other villages	2	1	1	.....	3	5	.....	.....
Towns	13	5	2	1	18	15	8	2

* Saranac Lake village, partly in Essex county but chiefly in Franklin county, is given as a whole under the latter (*italic line*).

† Dolgeville village, partly in Fulton county but chiefly in Herkimer county, is complete under the latter except for 3 births which are compiled under Fulton county villages.

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914 —** *(Continued)*

STATE AND SUBDIVISIONS, BY COUNTIES	Congenital debility	Accidents	Suicides	Homicides	Ill-defined diseases	All other causes	Births	
							Total living births	Stillbirths
COLUMBIA COUNTY	8	53	3	1	2	58	788	27
Hudson, city	4	17	.....	1	....	15	280	13
Villages	2	2	.....	.....	1	9	111	2
Towns	2	34	3	.....	1	34	397	12
CORTLAND COUNTY	10	23	8	.....	2	43	536	23
Cortland, city	4	14	5	.....	1	24	230	12
Homer, village	1	.....	.....	.....	....	5	36	.....
Other villages	.....	1	2	.....	....	1	27	2
Towns	5	8	1	.....	1	13	243	9
DELAWARE COUNTY	10	33	5	.....	2	47	798	35
Sidney, village	1	6	2	.....	1	.....	43	2
Walton, village	.....	2	.....	.....	1	6	53	2
Other villages	4	.....	.....	.....	....	5	108	7
Towns	5	25	3	.....	....	36	594	24
DUTCHESS COUNTY	21	80	10	2	....	96	1,924	69
Beacon, city	2	13	.....	.....	....	8	243	5
—Matteawan State Hospital	.....	.....	.....	.....	....	.....	.....	.....
Poughkeepsie, city	3	27	3	1	....	28	801	24
Wappingers Falls, village	2	2	.....	.....	....	7	86	3
Other villages	1	5	.....	.....	....	8	146	5
Towns	13	33	7	1	....	45	648	32
—Hudson River State Hospital	.....	*2*	.....	.....	....	*2*	.....	.....
ERIE COUNTY	95	440	73	29	6	653	15,407	652
Buffalo, city	66	340	63	24	....	523	12,639	561
Buffalo State Hospital	.....	*2*	.....	.....	....	.....	.....	.....
Lackawanna, city	16	16	.....	.....	1	37	685	23
Tonawanda, city	2	6	2	.....	....	11	166	4
Depew, village	.....	3	.....	1	....	6	246	9
East Aurora, village	1	2	.....	.....	....	4	71	2
Lancaster, village	1	4	.....	1	1	4	110	3
Other villages	2	10	.....	1	....	13	350	14
Towns	7	59	8	2	4	55	1,140	36
—Gowanda State Hospital	.....	*1*	.....	.....	....	*1*	.....	.....
ESSEX COUNTY	13	33	2	2	2	47	680	22
Villages*	1	5	.....	.....	....	11	217	7
Towns	12	28	2	2	2	36	463	15
FRANKLIN COUNTY	18	30	7	.....	3	61	992	43
Malone, village	2	7	2	.....	2	9	139	3
Saranac Lake, village	2	4	2	.....	....	12	80	5
*Saranac Lake, village**	*2*	*5*	*2*	.....	....	*13*	*101*	*7*
Tupper Lake, village	1	4	.....	.....	....	2	64	4
Other villages	4	.....	.....	.....	....	5	46	3
Towns	9	15	3	.....	1	33	663	28
FULTON COUNTY	11	19	5	.....	1	53	898	26
Gloversville, city	8	7	3	.....	....	27	455	15
Johnstown, city	2	3	1	.....	....	7	227	4
Villages†	.....	2	.....	.....	....	1	28	0
Towns	1	7	1	.....	1	18	188	7
GENESEE COUNTY	9	41	3	.....	1	54	868	27
Batavia, village	5	22	1	.....	....	23	339	15
LeRoy, village	.....	1	1	.....	....	3	102	1
Other villages	.....	.....	.....	.....	1	7	83	3
Towns	4	18	1	.....	....	21	344	8

*Saranac Lake, village partly in Essex county but chiefly in Franklin county, is given as a whole under the latter (*italic line*).

† Dolgeville village, partly in Fulton county but chiefly Herkimer county, is complete under the latter except for 3 births which are compiled under Fulton county villages.

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914** — (*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Total deaths	Age in Years: Under 1	1 to 4	5 to 19	20 to 39	40 to 59	60 and over	Unknown
GREENE COUNTY	469	35	17	16	50	96	265	.....
Catskill, village	75	7	5	0	7	16	40	.....
Other villages	97	12	4	5	7	16	53	.....
Towns	297	16	8	11	36	54	172	.....
HAMILTON COUNTY	45	6	0	1	7	7	24	.....
Towns	45	6	0	1	7	7	24	.....
HERKIMER COUNTY	1,053	185	47	61	125	175	457	3
Little Falls, city	240	69	12	10	36	37	76	.....
Dolgeville, village†	29	4	4	1	6	5	9	.....
Frankfort, village	84	28	11	10	5	16	14	.....
Herkimer, village	130	19	8	9	13	21	59	1
Ilion, village	108	15	1	8	19	22	43	.....
Other villages	94	5	3	7	7	16	56	.....
Towns	368	45	8	16	39	58	209	2
JEFFERSON COUNTY	1,154	153	49	56	115	192	588	1
Watertown, city	458	39	18	32	58	97	194	.....
Carthage, village	59	14	2	0	9	8	26	.....
Other villages	242	37	10	13	18	29	135	.....
Towns	395	43	19	11	30	58	233	1
LEWIS COUNTY	395	33	11	18	36	62	234	1
Lowville, village	61	3	3	4	5	7	39	.....
Other villages	77	5	2	6	6	12	46	.....
Towns	257	25	6	8	25	43	149	1
LIVINGSTON COUNTY	651	63	24	43	107	119	295	.....
Dansville, village	64	5	0	2	5	15	37	.....
Mt. Morris, village	57	8	10	7	5	5	22	.....
Other villages	122	10	6	3	14	16	73	.....
Towns	408	40	8	31	83	83	163	.....
—*Craig Colony, Sonyea*	*111*	.....	.....	*21*	*55*	*26*	*9*	.....
MADISON COUNTY	666	64	25	22	61	126	367	1
Oneida, city	167	27	10	7	23	31	69	.....
Canastota, village	47	6	2	2	7	15	15	.....
Other villages	141	5	4	1	5	25	101	.....
Towns	311	26	9	12	26	55	182	1
MONROE COUNTY	4,489	718	207	224	658	981	1,701	.....
Rochester, city	3,511	560	176	183	499	823	1,270	.....
—*Rochester State Hospital*	*151*	.....	.....	.....	*13*	*65*	*73*	.....
Brockport, village	59	4	2	5	6	9	33	.....
Fairport, village	54	15	1	1	3	10	24	.....
Other villages	174	59	11	6	16	14	68	.....
Towns	691	80	17	29	134	125	306	.....
MONTGOMERY COUNTY	912	162	32	42	122	186	368	.....
Amsterdam, city	496	112	28	20	90	112	127	.....
Fort Plain, village	46	3	0	3	1	14	25	.....
St. Johnsville, village	42	10	1	3	2	5	21	.....
Other villages	117	10	1	7	12	20	67	.....
Towns	211	20	2	9	17	35	128	.....
NASSAU COUNTY	1,248	225	79	72	154	249	473	5
Freeport, village	65	5	7	2	10	16	25	.....
Hempstead, village	64	13	8	1	6	15	21	.....
Rockville Center, village	46	4	1	3	4	14	20	.....
Other villages	310	40	15	21	45	78	111	.....
Towns	763	163	48	45	89	117	296	5

† Dolgeville village, partly in Fulton county but chiefly in Herkimer county, is complete under the latter except for 3 births which are compiled under Fulton county villages.

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914** — (*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Epidemic Diseases									
	Typhoid fever	Malaria	Smallpox	Measles	Scarlet fever	Whooping cough	Diphtheria and croup	Influenza	Erysipelas	Cerebrospinal meningitis
GREENE COUNTY	4	....	....	....	....	4	5	3	....	....
Catskill, village	....	....	....	....	....	1	1	....	....	....
Other villages	1	....	....	....	....	1	1	....	....	....
Towns	3	....	....	....	....	2	3	3	....	....
HAMILTON COUNTY	1	....	....	....	....	....	....	....	....	....
Towns	1	....	....	....	....	....	....	....	....	....
HERKIMER COUNTY	6	....	....	11	15	8	11	6	5	5
Little Falls, city	1	....	....	....	3	....	2	2	1	2
Dolgeville, village†	1	....	....	1	....	....	1	1	1	....
Frankfort, village	1	....	....	8	7	....	....	....	1	....
Herkimer, village	....	....	....	....	....	4	4	....	1	1
Ilion, village	1	....	....	....	....	....	....	....	....	....
Other villages	....	....	....	1	1	3	1	2	....	....
Towns	2	....	....	1	4	1	3	1	1	2
JEFFERSON COUNTY	6	....	....	1	....	10	9	14	1	4
Watertown, city	3	....	....	....	....	1	7	2	....	....
Carthage, village	....	....	....	....	....	1	....	....	....	....
Other villages	1	....	....	....	....	1	1	3	1	....
Towns	2	....	....	1	....	7	1	9	....	4
LEWIS COUNTY	6	1	....	1	....	2	2	8	1	1
Lowville, village	....	....	....	1	....	1	....	....	....	....
Other villages	1	....	....	....	....	....	1	3	....	....
Towns	5	1	....	....	....	1	1	5	1	1
LIVINGSTON COUNTY	16	....	....	2	3	1	3	5	1	....
Dansville, village	....	....	....	....	1	....	....	....	....	....
Mt. Morris, village	....	....	....	....	1	....	2	....	....	....
Other villages	1	....	....	....	1	....	1	2	....	....
Towns	15	....	....	2	....	1	....	3	1	....
—*Craig Colony, Sonyea*	*15*	....	....	....	....	....	....	....	....	....
MADISON COUNTY	7	....	....	6	....	3	1	7	1	3
Oneida, city	....	....	....	4	....	1	....	....	....	....
Canastota, village	....	....	....	....	....	....	....	1	....	2
Other villages	2	....	....	1	....	1	....	1	....	....
Towns	5	....	....	1	....	1	1	5	1	1
MONROE COUNTY	29	1	....	15	29	9	33	23	15	12
Rochester, city	26	1	....	14	25	5	29	15	11	11
—*Rochester State Hospital*	....	....	....	....	....	....	....	....	....	....
Brockport, village	....	....	....	....	....	....	1	2	....	1
Fairport, village	....	....	....	....	....	1	....	....	....	....
Other villages	1	....	....	1	1	2	....	2	....	....
Towns	2	....	....	....	3	1	3	4	4	....
MONTGOMERY COUNTY	9	....	....	....	3	1	7	4	6	3
Amsterdam, city	5	....	....	....	3	....	5	2	5	3
Fort Plain, village	2	....	....	....	....	....	1	....	....	....
St. Johnsville, village	....	....	....	....	....	1	1	....	....	....
Other villages	....	....	....	....	....	....	....	1	....	....
Towns	2	....	....	....	....	....	....	1	1	....
NASSAU COUNTY	2	2	....	6	2	11	14	6	....	2
Freeport, village	....	....	....	....	....	....	2	....	....	....
Hempstead, village	....	....	....	2	1	....	....	....	....	....
Rockville Center, village	....	....	....	....	....	....	1	....	....	....
Other villages	1	....	....	1	1	6	2	1	....	....
Towns	1	2	....	3	....	5	9	5	....	2

† Dolgeville village, partly in Fulton county but chiefly in Herkimer county, is complete under he latter except for 3 births which are compiled under Fulton county villages.

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914** — (*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Pulmonary tuberculosis	Other forms of tuberculosis	Cancer and other malignant tumors	Diabetes	Other general diseases	Diseases of the nervous system	Diseases of the circulatory system	Bronchopneumonia
GREENE COUNTY	37	3	26	10	9	84	100	9
Catskill, village	4	.....	4	.....	2	17	19	3
Other villages	6	1	5	2	.....	14	19	.....
Towns	27	2	17	8	7	53	62	6
HAMILTON COUNTY	6	.....	2	1	1	5	6	1
Towns	6	.....	2	1	1	5	6	1
HERKIMER COUNTY	78	8	58	11	19	119	191	32
Little Falls, city	14	1	12	2	3	17	42	5
Dolgeville, village†	5	1	2	.....	.....	3	2	1
Frankfort, village	7	1	2	.....	2	4	11	5
Herkimer, village	10	1	9	2	4	15	17	6
Ilion, village	10	1	4	1	2	15	20	1
Other villages	6	1	8	.....	1	13	18	5
Towns	26	2	21	6	7	52	81	9
JEFFERSON COUNTY	60	17	71	19	40	145	234	17
Watertown, city	29	11	33	5	20	52	90	6
Carthage, village	3	1	1	.....	3	3	14	1
Other villages	10	2	11	9	7	26	53	5
Towns	18	3	26	5	10	64	77	5
LEWIS COUNTY	22	3	21	7	18	54	65	6
Lowville, village	2	.....	6	.....	5	7	10	2
Other villages	2	.....	2	4	5	14	9	1
Towns	18	3	13	3	8	33	46	3
LIVINGSTON COUNTY	40	9	31	9	19	116	133	29
Dansville, village	1	.....	4	2	5	6	16	1
Mt. Morris, village	3	1	2	.....	2	6	13	5
Other villages	6	3	9	2	1	20	24	4
Towns	30	5	16	5	11	84	80	19
—*Craig Colony, Sonyea*	*16*	*8*	*1*	*1*	.....	*28*	*6*	*12*
MADISON COUNTY	28	5	47	14	39	75	154	7
Oneida, city	8	2	12	1	8	13	30	2
Canastota, village	5	1	2	.....	6	5	6	.....
Other villages	4	2	10	6	8	22	38	.....
Towns	11	.....	23	7	17	35	80	5
MONROE COUNTY	384	61	307	59	121	423	878	188
Rochester, city	223	52	257	50	98	320	653	167
—*Rochester State Hospital*	*20*	*2*	*3*	*1*	*1*	*37*	*32*	*31*
Brockport, village	5	1	5	.....	3	8	12	1
Fairport, village	.....	1	9	2	2	7	7	1
Other villages	6	2	7	.....	8	13	23	6
Towns	150	5	29	7	10	75	113	13
MONTGOMERY COUNTY	66	12	49	12	21	140	155	19
Amsterdam, city	45	9	22	4	13	59	73	10
Fort Plain, village	.....	.....	.....	2	.....	10	11	.....
St. Johnsville, village	.....	.....	2	1	.....	9	4	.....
Other villages	7	2	8	3	4	25	21	4
Towns	14	1	17	2	4	37	46	5
NASSAU COUNTY	72	18	77	15	39	138	206	41
Freeport, village	3	1	5	1	5	4	17	.....
Hempstead, village	5	.....	4	.....	1	7	7	2
Rockville Center, village	4	.....	4	.....	1	11	8	1
Other villages	9	4	19	4	18	19	49	9
Towns	51	13	45	10	14	77	125	29

† Dolgeville village, partly in Fulton county but chiefly in Herkimer county, is complete under the latter except for 3 births which are compiled under Fulton county villages.

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914** — (*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Lobar pneumonia, etc.	Other diseases of the respiratory system	Diarrhea and Enteritis		Other diseases of the digestive system	Bright's disease and nephritis	Other diseases of the genito-urinary system	The puerperal state
			Under 2 years	Over 2 years				
GREENE COUNTY	24	10	10	4	17	38	7	4
Catskill, village	.....	2	3	.....	3	4	2	1
Other villages	14	3	1	1	5	10	.....	.....
Towns	10	5	6	3	9	24	5	3
HAMILTON COUNTY	1	.....	.....	.....	1	6	1	.....
Towns	1	.....	.....	.....	1	6	1	.....
HERKIMER COUNTY	58	30	41	8	44	71	11	4
Little Falls, city	17	7	23	2	10	18	2	1
Dolgeville, village †	1	3	.....	1	1	2	.....	.....
Frankfort, village	7	2	3	.....	1	4	.....	2
Herkimer, village	6	4	3	.....	4	8	2	1
Ilion, village	6	2	.....	1	11	8	2	.....
Other villages	8	3	1	1	6	7	.....	.....
Towns	13	9	11	3	11	24	5	.....
JEFFERSON COUNTY	68	31	36	13	64	64	23	12
Watertown, city	27	7	13	4	30	21	12	7
Carthage, village	5	3	5	1	1	4	1	1
Other villages	14	7	10	3	10	20	2	3
Towns	22	14	8	5	23	19	8	1
LEWIS COUNTY	15	10	8	3	31	35	6	5
Lowville, village	4	1	1	1	7	1	1	1
Other villages	4	3	.....	.....	8	7	1	1
Towns	7	6	7	2	16	27	4	3
LIVINGSTON COUNTY	32	14	15	12	30	31	8	6
Dansville, village	2	1	1	1	5	7	2	.....
Mt. Morris, village	7	4	5	2	1	.....	.....	.....
Other villages	5	1	2	.....	4	8	2	3
Towns	18	8	7	9	20	16	4	3
—*Craig Colony, Sonyea*	*6*	.....	.....	*1*	*3*	4	.....	*1*
MADISON COUNTY	33	26	10	2	48	34	15	5
Oneida, city	8	8	6	1	16	3	9	.....
Canastota, village	2	2	1	.....	5	3	.....	.....
Other villages	8	6	2	.....	7	8	.....	1
Towns	15	10	1	1	20	20	6	4
MONROE COUNTY	210	87	249	42	232	334	88	56
Rochester, city	170	66	179	32	199	282	78	51
—*Rochester State Hospital*	7	*1*	.....	*5*	*6*	4	.....	.....
Brockport, village	3	.....	.....	.....	.....	2	.....	1
Fairport, village	1	3	4	.....	.....	.....	.....	.....
Other villages	9	5	42	2	7	7	2	.....
Towns	27	13	24	8	26	43	8	4
MONTGOMERY COUNTY	38	21	38	4	48	65	15	5
Amsterdam, city	23	13	31	3	31	28	8	4
Fort Plain, village	7	.....	.....	.....	1	6	2	.....
St. Johnsville, village	3	.....	1	1	1	5	.....	.....
Other villages	1	2	1	.....	8	8	.....	.....
Towns	4	6	5	.....	7	18	5	1
NASSAU COUNTY	76	24	65	17	68	97	20	9
Freeport, village	2	1	3	2	2	7	2	1
Hempstead, village	2	2	5	.....	4	6	.....	1
Rockville Center, village	4	.....	1	.....	1	6	.....	.....
Other villages	22	4	7	2	29	17	7	2
Towns	46	17	49	13	32	61	11	5

† Dolgeville village, partly in Fulton county but chiefly in Herkimer county, is complete under the latter except for 3 births which are compiled under Fulton county villages.

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914** — (*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Congenital debility	Accidents	Suicides	Homicides	Ill-defined diseases	All other causes	Births: Total living births	Births: Stillbirths
GREENE COUNTY	5	29	7	1	....	19	500	18
Catskill, village	1	7	.....	.....	....	1	94	7
Other villages	3	7	1	.....	....	2	73	2
Towns	1	15	6	1	....	16	333	9
HAMILTON COUNTY	.....	3	1	.....	4	5	75	3
Towns	.....	3	1	.....	4	5	75	3
HERKIMER COUNTY	23	88	14	4	3	71	1,470	52
Little Falls, city	5	22	.....	.....	1	25	416	11
Dolgeville, village†	.....	1	.....	.....	....	1	80	4
Frankfort, village	4	4	.....	.....	....	8	156	5
Herkimer, village	6	11	3	1	....	7	232	5
Ilion, village	2	9	5	.....	....	7	146	10
Other villages	1	2	1	.....	....	4	104	7
Towns	5	39	5	3	2	19	336	10
JEFFERSON COUNTY	17	65	19	.....	2	92	1,484	53
Watertown, city	4	26	8	.....	1	39	548	20
Carthage, village	3	4	.....	.....	....	4	96	1
Other villages	3	14	7	.....	1	18	313	14
Towns	7	21	4	.....	....	31	527	18
LEWIS COUNTY	4	26	5	.....	....	29	465	18
Lowville, village	.....	5	1	.....	....	4	38	2
Other villages	2	4	1	.....	....	4	77	4
Towns	2	17	3	.....	....	21	350	12
LIVINGSTON COUNTY	7	38	7	1	....	33	731	20
Dansville, village	.....	2	3	1	....	3	79	1
Mt. Morris, village	.....	3	.....	.....	....	.....	110	3
Other villages	3	9	.....	.....	....	11	163	4
Towns	4	24	4	.....	....	19	379	12
—*Craig Colony, Sonyea*	.....	*6*	*1*	.....	....	.....	.....	.....
MADISON COUNTY	5	36	5	.....	1	49	781	17
Oneida, city	4	12	1	.....	....	18	239	3
Canastota, village	.....	2	1	.....	....	3	87	2
Other villages	.....	8	.....	.....	....	6	96	1
Towns	1	14	3	.....	1	22	359	11
MONROE COUNTY	23	208	69	4	....	370	7,854	291
Rochester, city	13	139	56	4	....	285	6,601	246
—*Rochester State Hospital*	.....	.....	*1*	.....	....	.....	.....	.....
Brockport, village	.....	2	2	.....	....	10	48	0
Fairport, village	2	4	1	.....	....	9	82	3
Other villages	2	12	1	.....	....	13	257	15
Towns	6	51	9	.....	....	53	866	27
MONTGOMERY COUNTY	18	62	10	4	3	74	1,501	52
Amsterdam, city	13	23	6	3	2	50	1,067	35
Fort Plain, village	1	1	.....	.....	....	2	48	2
St. Johnsville, village	3	7	.....	.....	....	3	83	0
Other villages	.....	12	1	.....	1	8	134	5
Towns	1	19	3	1	....	11	169	10
NASSAU COUNTY	25	83	10	8	4	91	2,352	111
Freeport, village	.....	3	.....	1	....	3	114	2
Hempstead, village	1	7	1	.....	2	4	123	5
Rockville Center, village	.....	2	.....	.....	....	2	87	1
Other villages	7	29	2	.....	....	19	359	24
Towns	17	42	7	7	2	63	1,669	79

† Dolgeville village, partly in Fulton county but chiefly in Herkimer county, is complete under the latter except for 3 births which are compiled under Fulton county villages.

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914 —** (*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Total deaths	Age in Years: Under 1	1 to 4	5 to 19	20 to 39	40 to 59	60 and over	Unknown
NIAGARA COUNTY	1,397	302	73	82	170	253	517	.....
Lockport, city	285	36	8	11	36	55	139	.....
Niagara Falls, city	546	169	37	40	83	97	120	.....
North Tonawanda, city	162	54	12	11	15	30	40	.....
Villages	89	9	3	2	6	21	48	.....
Towns	315	34	13	18	30	50	170	.....
ONEIDA COUNTY	3,088	481	166	149	436	584	1,221	1
Rome, city	531	58	16	45	120	115	177	.....
Utica, city	1,547	288	113	68	226	310	541	1
—Utica State Hospital	*145*	.....	.....	*1*	*19*	*51*	*72*	.....
Villages	303	32	5	5	27	56	178	.....
Towns	657	103	32	31	63	103	325	.....
—Rome Custodial Asylum	*101*	.....	*3*	*21*	*49*	*22*	*6*	.....
ONONDAGA COUNTY	3,216	555	143	144	431	651	1,291	1
Syracuse, city	2,221	419	117	99	316	483	787	.....
Baldwinsville, village	61	5	0	0	4	9	43	.....
East Syracuse, village	36	7	1	5	6	4	13	.....
Solvay, village	45	9	5	4	5	9	13	.....
Other villages	191	19	7	10	14	40	101	.....
Towns	662	96	13	26	86	106	334	1
ONTARIO COUNTY	799	96	23	37	79	145	419	.....
Canandaigua, city	146	14	5	7	13	22	85	.....
Geneva, city	235	40	13	19	35	51	77	.....
Villages	120	7	0	5	8	32	68	.....
Towns	298	35	5	6	23	40	189	.....
ORANGE COUNTY	1,944	222	70	103	284	427	838	.....
Middletown, city	388	28	15	13	57	98	177	.....
—Middletown State Hospital	*113*	.....	.....	*2*	*16*	*32*	*63*	.....
Newburgh, city	515	57	21	29	90	131	187	.....
Port Jervis, city	159	19	3	12	23	38	64	.....
Cornwall, village	38	3	0	5	5	9	16	.....
Goshen, village	68	11	1	3	5	21	27	.....
Walden, village	51	6	1	3	11	8	22	.....
Other villages	144	20	7	5	17	17	78	.....
Towns	581	78	22	33	76	105	267	.....
ORLEANS COUNTY	457	57	15	19	49	79	238	.....
Albion, village	77	9	0	5	11	14	38	.....
Medina, village	87	16	6	3	9	18	35	.....
Other villages	37	3	0	2	3	8	21	.....
Towns	256	29	9	9	26	39	144	.....
OSWEGO COUNTY	1,255	196	48	54	114	201	642	.....
Fulton, city	178	45	14	11	21	25	62	.....
Oswego, city	430	78	14	19	48	93	178	.....
Villages	135	8	4	5	10	13	95	.....
Towns	512	65	16	19	35	70	307	.....
OTSEGO COUNTY	817	62	13	25	78	135	502	2
Oneonta, city	154	22	6	6	23	34	63	.....
Villages	181	7	1	7	15	28	122	1
Towns	482	33	6	12	40	73	317	1
PUTNAM COUNTY	189	23	3	5	20	40	98	.....
Cold Spring, village	29	4	1	0	4	7	13	.....
Other villages	28	1	0	1	4	4	18	.....
Towns	132	18	2	4	12	29	67	.....

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914 —** *(Continued)*

STATE AND SUBDIVISIONS, BY COUNTIES	Epidemic Diseases									
	Typhoid fever	Malaria	Smallpox	Measles	Scarlet fever	Whooping cough	Diphtheria and croup	Influenza	Erysipelas	Cerebrospinal meningitis
NIAGARA COUNTY	16	1	1	3	2	13	19	11	1	1
Lockport, city	2					2	1	4		
Niagara Falls, city	5		1	1	1	6	13	3	1	1
North Tonawanda, city	8			2		4	2			
Villages								3		
Towns	1	1			1	1	3	1		
ONEIDA COUNTY	11	1		34	6	14	34	18	11	9
Rome, city	5			1		1	2	4	4	1
Utica, city	6			24	4	5	24	6	5	7
—*Utica State Hospital*										
Villages						4	1	6	1	
Towns		1		9	2	4	7	2	1	1
—*Rome Custodial Asylum*	1						1			
ONONDAGA COUNTY	21			5	14	30	23	17	8	2
Syracuse, city	15			4	13	21	16	7	4	2
Baldwinsville, village						1		1		
East Syracuse, village	1						1			
Solvay, village	1						1			
Other villages	1					1	4	1	2	
Towns	3			1	1	7	1	8	2	
ONTARIO COUNTY	5				9	3	6	16	3	
Canandaigua, city					2	2	1	3	1	
Geneva, city	4				7	1	4	1	1	
Villages	1									
Towns							1	12	1	
ORANGE COUNTY	20			14	3	12	15	22	5	2
Middletown, city	1			5		4		4	1	1
—*Middletown State Hospital*										1
Newburgh, city	7			3	1		7		1	
Port Jervis, city	1			4			1	6		
Cornwall, village						1				
Goshen, village						2		1	1	
Walden, village	4			1						
Other villages					1	1	5	5		1
Towns	7			1	1	4	2	6	2	
ORLEANS COUNTY	3			1	1		4	1	4	
Albion, village							2			
Medina, village				1	1				1	
Other villages	1									
Towns	2						2	1	3	
OSWEGO COUNTY	11			4		17		17	3	1
Fulton, city				2		2		2	1	1
Oswego, city	6			2		12		4		
Villages	1							1	2	
Towns	4					3		10		
OTSEGO COUNTY	5			5	2		1	9	4	1
Oneonta, city	2			2					2	
Villages	2			2	1					
Towns	1			1	1		1	9	2	1
PUTNAM COUNTY		2				3	1	3	1	1
Cold Spring, village						1				
Other villages										
Towns		2				2	1	3	1	1

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914** — (*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Pulmonary tuberculosis	Other forms of tuberculosis	Cancer and other malignant tumors	Diabetes	Other general diseases	Diseases of the nervous system	Diseases of the circulatory system	Bronchopneumonia
NIAGARA COUNTY	82	11	84	19	50	138	214	42
Lockport, city	22	1	19	3	11	31	69	4
Niagara Falls, city	29	8	25	4	16	44	53	23
North Tonawanda, city	6	2	8	3	4	15	10	8
Villages	4	.....	5	2	1	9	21	5
Towns	21	.....	27	7	18	39	61	2
ONEIDA COUNTY	253	36	174	47	94	295	547	122
Rome, city	95	3	26	5	14	50	96	18
Utica, city	111	24	77	28	50	138	261	71
—*Utica State Hospital*	*13*	*1*	*5*	*1*	*13*	*44*	*34*	*3*
Villages	12	5	18	4	12	42	61	10
Towns	35	4	53	10	18	65	129	24
—*Rome Custodial Asylum*	*45*	*3*	*1*	.....	*1*	*5*	*18*	*3*
ONONDAGA COUNTY	243	42	193	50	88	344	607	90
Syracuse, city	164	37	130	38	67	233	387	64
Baldwinsville, village	1	.....	8	.....	1	7	17	2
East Syracuse, village	2	.....	2	.....	.....	5	5	2
Solvay, village	4	1	1	.....	1	7	4	3
Other villages	7	2	13	1	6	21	50	5
Towns	65	2	39	11	13	71	144	14
ONTARIO COUNTY	33	7	66	14	17	103	157	11
Canandaigua, city	2	.....	10	2	4	16	30	1
Geneva, city	8	3	11	6	6	22	34	7
Villages	2	2	21	4	2	20	25	0
Towns	21	2	24	2	5	45	68	3
ORANGE COUNTY	198	23	116	27	54	256	314	37
Middletown, city	37	6	26	9	16	55	78	10
—*Middletown State Hospital*	*15*	*2*	*5*	.....	*2*	*28*	*21*	*1*
Newburgh, city	57	7	37	7	12	69	69	6
Port Jervis, city	17	2	7	1	3	18	26	3
Cornwall, village	2	.....	3	1	2	5	6	1
Goshen, village	4	.....	2	.....	3	8	11	5
Walden, village	8	.....	4	.....	1	1	8	.....
Other villages	8	.....	8	2	7	23	25	2
Towns	65	8	29	7	10	77	91	10
ORLEANS COUNTY	15	5	30	12	16	64	96	7
Albion, village	3	1	5	1	2	10	14	1
Medina, village	4	1	7	2	2	12	12	.....
Other villages	.....	.....	5	1	2	3	6	2
Towns	8	3	13	8	10	39	64	4
OSWEGO COUNTY	51	14	76	19	46	166	250	24
Fulton, city	8	2	6	2	9	15	21	6
Oswego, city	17	4	31	3	12	62	85	9
Villages	7	2	11	3	6	18	32	1
Towns	19	6	28	11	19	71	112	8
OTSEGO COUNTY	20	5	48	16	30	110	183	12
Oneonta, city	2	1	9	4	6	20	23	2
Villages	2	1	9	7	8	25	48	6
Towns	16	3	30	5	16	65	112	4
PUTNAM COUNTY	16	1	12	5	3	27	37	1
Cold Spring, village	3	.....	1	1	.....	4	.....	.....
Other villages	5	.....	4	1	1	3	6	.....
Towns	8	1	7	3	2	20	31	1

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914** — (*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Lobar pneumonia, etc.	Other diseases of the respiratory system	Diarrhea and Enteritis		Other diseases of the digestive system	Bright's disease and nephritis	Other diseases of the genito-urinary system	The puerperal state
			Under 2 years	Over 2 years				
NIAGARA COUNTY	63	38	93	12	90	86	21	7
Lockport, city	13	16	4	4	17	8	5	2
Niagara Falls, city	24	2	65	3	30	41	11	4
North Tonawanda, city	4	8	18	1	15	7	3	1
Villages	3	4	3	3	4	4	1	.....
Towns	19	14	3	1	24	20	1	.....
ONEIDA COUNTY	209	64	118	39	179	226	52	28
Rome, city	26	4	10	16	31	43	6	9
Utica, city	114	36	78	13	90	108	32	14
—*Utica State Hospital*	*15*	.....	.....	*3*	*5*	*6*	.....	.....
Villages	22	7	9	4	22	26	8	3
Towns	48	17	21	6	36	49	6	2
—*Rome Custodial Asylum*	*9*	*1*	.....	*10*	*3*	.....	*1*	.....
ONONDAGA COUNTY	196	72	169	23	159	204	65	24
Syracuse, city	142	38	136	14	120	141	48	21
Baldwinsville, village	3	4	.....	1	3	3	2	.....
East Syracuse, village	7	2	2	.....	2	1	.....	.....
Solvay, village	3	1	3	1	4	3	.....	.....
Other villages	9	9	1	3	7	10	6	.....
Towns	32	18	27	4	23	47	9	3
ONTARIO COUNTY	28	19	18	8	56	61	24	7
Canandaigua, city	3	4	1	4	12	12	5	3
Geneva, city	11	3	9	1	10	15	9	3
Villages	2	3	2	1	9	12	2	.....
Towns	12	9	6	2	16	22	8	1
ORANGE COUNTY	91	40	50	16	110	197	21	20
Middletown, city	17	4	9	3	21	43	4	2
—*Middletown State Hospital*	*2*	*2*	.....	*1*	*4*	*24*	*2*	.....
Newburgh, city	19	9	11	3	36	55	10	9
Port Jervis, city	4	2	5	2	10	15	2	1
Cornwall, village	2	.....	.....	1	2	7	.....	.....
Goshen, village	2	2	1	2	3	5	1	.....
Walden, village	3	1	2	.....	7	5	.....	1
Other villages	8	2	4	.....	3	17	.....	2
Towns	36	20	18	5	26	50	4	5
ORLEANS COUNTY	18	11	18	3	27	30	4	9
Albion, village	4	2	3	.....	9	4	1	2
Medina, village	5	2	1	1	3	9	.....	2
Other villages	1	.....	6	1	.....	.....	.....	.....
Towns	8	7	8	1	15	17	3	5
OSWEGO COUNTY	78	34	48	9	75	73	22	16
Fulton, city	16	5	14	1	9	6	6	6
Oswego, city	22	4	21	2	22	28	8	5
Villages	16	1	1	.....	9	7	3	.....
Towns	24	24	12	6	35	32	5	5
OTSEGO COUNTY	41	13	12	7	57	71	16	8
Oneonta, city	5	2	6	3	9	9	5	2
Villages	5	1	3	1	17	15	5	1
Towns	31	10	3	3	31	47	6	5
PUTNAM COUNTY	8	7	7	2	6	14	3	.....
Cold Spring, village	3	1	.....	.....	1	7	.....	.....
Other villages	1	1	3	1	.....	.....	.....	.....
Towns	4	5	4	1	5	7	3	.....

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914 —** *(Continued)*

STATE AND SUBDIVISIONS, BY COUNTIES	Congenital debility	Accidents	Suicides	Homicides	Ill-defined diseases	All other causes	Births: Total living births	Births: Stillbirths
NIAGARA COUNTY	27	103	16	6	10	123	2,832	108
Lockport, city	6	25	2	1	1	18	348	13
Niagara Falls, city	16	45	5	3	6	57	1,420	65
North Tonawanda, city	1	10	3	.....	2	17	418	11
Villages	.....	6	4	.....	1	6	126	4
Towns	4	17	2	2	....	25	510	15
ONEIDA COUNTY	36	145	29	8	6	192	4,179	167
Rome, city	5	28	7	1	1	20	628	23
Utica, city	19	79	12	6	1	104	2,434	105
—*Utica State Hospital*	.....	.....	1	.....	....	1	.....	.....
Villages	2	6	2	.....	2	14	241	7
Towns	10	32	8	1	2	54	876	32
—*Rome Custodial Asylum*	.....	.....	.....	.....	....	1	.....	.....
ONONDAGA COUNTY	52	174	48	9	7	227	4,553	207
Syracuse, city	32	105	33	5	5	179	3,358	150
Baldwinsville, village	1	2	1	.....	....	4	61	3
East Syracuse, village	1	1	1	.....	....	1	86	3
Solvay, village	1	3	.....	.....	1	2	147	6
Other villages	5	9	3	3	1	11	216	9
Towns	12	54	10	1	....	40	685	36
ONTARIO COUNTY	10	35	8	2	1	72	1,054	45
Canandaigua, city	1	9	3	1	....	14	165	15
Geneva, city	7	17	1	.....	....	25	323	15
Villages	.....	4	.....	1	1	6	138	4
Towns	2	5	4	.....	....	27	418	11
ORANGE COUNTY	25	127	22	2	1	104	2,208	122
Middletown, city	2	17	4	.....	....	9	255	18
—*Middletown State Hospital*	.....	1	1	.....	....	1	.....	.....
Newburgh, city	7	32	6	.....	....	32	606	37
Port Jervis, city	4	11	3	1	....	10	174	9
Cornwall, village	.....	5	.....	.....	....	.....	34	1
Goshen, village	.....	7	2	.....	....	6	49	1
Walden, village	.....	1	.....	.....	....	4	66	7
Other villages	2	9	2	.....	....	7	187	5
Towns	10	45	5	1	1	35	837	44
ORLEANS COUNTY	9	34	4	.....	....	32	710	34
Albion, village	.....	7	.....	.....	....	6	116	4
Medina, village	4	6	1	.....	....	10	142	6
Other villages	2	5	.....	.....	....	2	50	2
Towns	3	16	3	.....	....	13	402	22
OSWEGO COUNTY	21	73	4	2	6	95	1,565	69
Fulton, city	5	17	1	1	....	14	322	17
Oswego, city	8	23	1	1	3	25	561	19
Villages	.....	5	.....	.....	....	9	118	2
Towns	8	28	2	.....	3	37	554	31
ONEIDA COUNTY	8	56	9	3	2	63	798	32
Oneonta, city	4	20	1	1	....	14	227	14
Villages	1	7	1	.....	....	13	127	7
Towns	3	29	7	2	2	36	444	11
PUTNAM COUNTY	4	8	2	1	....	14	255	5
Cold Spring, village	2	1	1	.....	....	3	41	.....
Other villages	1	.....	.....	1	....	.....	32	.....
Towns	1	7	1	.....	....	11	182	5

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914** — (*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Total deaths	Age in Years: Under 1	1 to 4	5 to 19	20 to 39	40 to 59	60 and over	Unknown
RENSSELAER COUNTY	2,241	255	99	114	313	554	905	1
Rensselaer, city	169	28	9	10	13	39	70	.....
Troy, city	1,589	184	78	80	252	427	568	.....
Hoosick Falls, village	83	13	5	3	8	20	34	.....
Other villages	40	2	0	4	6	5	23	.....
Towns	360	28	7	17	34	63	210	1
ROCKLAND COUNTY	640	75	24	45	83	146	266	1
Haverstraw, village	67	8	1	6	13	15	24	.....
Nyack, village	102	6	2	7	13	35	39	.....
Suffern, village	48	6	1	3	9	12	16	1
Other villages	133	22	3	10	12	29	57	.....
Towns	290	33	17	19	36	55	130	.....
ST. LAWRENCE COUNTY	1,526	242	46	78	157	276	726	1
Ogdensburg, city	436	55	11	26	55	97	191	1
—*St. Lawrence State Hospital*	*138*	*1*	.....	*1*	*18*	*43*	*75*	.....
Canton, village	51	7	0	1	3	12	28	.....
Gouverneur, village	75	10	3	3	5	16	38	.....
Massena, village	59	14	7	3	6	10	19	.....
Potsdam, village	58	13	0	1	5	10	29	.....
Other villages	93	11	3	6	12	19	42	.....
Towns	754	132	22	38	71	112	379	.....
SARATOGA COUNTY	1,011	154	46	42	111	188	466	4
Saratoga Springs, village	259	28	11	8	39	57	116	.....
Ballston Spa, village	62	10	4	2	4	12	30	.....
Mechanicville, village	90	23	6	5	11	14	31	.....
Waterford, village	43	10	1	3	8	5	16	.....
Other villages	109	22	5	2	9	18	52	1
Towns	448	61	19	22	40	82	221	3
SCHENECTADY COUNTY	1,276	267	80	79	215	257	377	1
Schenectady, city	1,040	229	74	62	174	211	289	1
Scotia, village	48	9	6	4	2	10	17	.....
Towns	188	29	0	13	39	36	71	.....
SCHOHARIE COUNTY	353	24	4	9	19	45	252	.....
Villages	103	3	0	3	4	19	74	.....
Towns	250	21	4	6	15	26	178	.....
SCHUYLER COUNTY	239	15	4	6	13	31	170	.....
Watkins, village	51	1	1	2	4	8	35	.....
Other villages	44	2	0	1	2	9	30	.....
Towns	144	12	3	3	7	14	105	.....
SENECA COUNTY	550	34	8	12	37	116	343	.....
Seneca Falls, village	103	10	4	4	9	19	57	.....
Waterloo, village	72	5	2	2	4	13	46	.....
Other villages	27	2	0	0	1	2	22	.....
Towns	348	17	2	6	23	82	218	.....
—*Willard State Hospital*	*176*	.....	.....	.....	*11*	*50*	*115*	.....
STEUBEN COUNTY	1,389	122	27	42	129	244	824	1
Corning, city	203	34	5	13	30	48	72	1
Hornell, city	220	18	8	10	37	52	95	.....
Bath, village	76	6	1	1	7	12	49	.....
Other villages	187	18	3	3	16	41	106	.....
Towns	703	46	10	15	39	91	502	.....
—*Soldiers and Sailors' Home, Bath*	*182*	.....	.....	.....	*1*	.....	*181*	.....
SUFFOLK COUNTY	1,996	134	44	63	349	549	856	1
Amityville, village	97	2	1	2	13	21	58	.....
Babylon, village	42	4	0	1	9	11	17	.....
Greenport, village	58	5	0	0	6	14	33	.....
Patchogue, village	49	7	0	4	5	12	21	.....

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914** — (*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Epidemic Diseases									
	Typhoid fever	Malaria	Smallpox	Measles	Scarlet fever	Whooping cough	Diphtheria and croup	Influenza	Erysipelas	Cerebrospinal meningitis
RENSSELAER COUNTY	32			7	5	20	28	24	8	6
Rensselaer, city						4	4	3	1	1
Troy, city	26			6	4	10	19	15	6	4
Hoosick Falls, village						2		1		
Other villages							1			
Towns	6			1	1	4	4	5	1	1
ROCKLAND COUNTY	6			1		3	7	8	1	3
Haverstraw, village	1							1	1	
Nyack, village	2							2		1
Suffern, village	2									
Other villages							2	2		1
Towns	1			1		3	5	3		1
ST. LAWRENCE COUNTY	15			5	7	13	6	14	3	3
Ogdensburg, city	4			4	3	5	5	7		1
—*St. Lawrence State Hospital*										
Canton, village								1	1	
Gouverneur, village	3						1			
Massena, village	1					1				1
Potsdam, village	1									
Other villages	2					1				
Towns	4			1	4	6		6	2	1
SARATOGA COUNTY	11	1		2	13	5	9	9		1
Saratoga Springs, village	4				1		4	4		
Ballston Spa, village	1							1		
Mechanicville, village	1			1	5					
Waterford, village						2	1	1		
Other villages	1	1		1	1	1				1
Towns	4				6	2	4	3		
SCHENECTADY COUNTY	10			3	15	21	17	6	3	4
Schenectady, city	9			3	14	15	14	3	3	4
Scotia, village					1	4	2			
Towns	1					2	1	3		
SCHOHARIE COUNTY	2	1			1			4	1	1
Villages								1		
Towns	2	1			1			3	1	1
SCHUYLER COUNTY		1		1				1		
Watkins, village										
Other villages		1						1		
Towns				1						
SENECA COUNTY	5					3	2	7	2	2
Seneca Falls, village						2		2	1	
Waterloo, village						1	1	1		2
Other villages										
Towns	5						1	4	1	
—*Willard State Hospital*	4									
STEUBEN COUNTY	13			4	1	5	7	4	5	1
Corning, city	4						3			
Hornell, city	1			2	1	2		1	1	1
Bath, village	1									
Other villages	2			1		1		3	1	
Towns	5			1		2	4		3	
—*Soldiers and Sailors' Home, Bath*										
SUFFOLK COUNTY	3	1		1	3	3	9	20	10	2
Amityville, village										
Babylon, village										
Greenport, village		1						1		
Patchogue, village								1		1

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914** — (*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Pulmonary tuberculosis	Other forms of tuberculosis	Cancer and other malignant tumors	Diabetes	Other general diseases	Diseases of the nervous system	Diseases of the circulatory system	Bronchopneumonia
RENSSELAER COUNTY	222	20	172	35	42	220	399	99
Rensselaer, city	8	1	13	1	7	19	27	6
Troy, city	171	14	134	25	28	135	282	79
Hoosick Falls, village	8	1	6	2	1	13	14	4
Other villages	6	.....	3	2	1	4	7	1
Towns	29	4	16	5	5	59	69	9
ROCKLAND COUNTY	59	9	51	12	25	89	97	22
Haverstraw, village	11	.....	6	1	.....	8	11	3
Nyack, village	7	3	8	3	7	13	14	2
Suffern, village	4	.....	2	1	4	5	4	3
Other villages	17	1	9	2	6	22	19	3
Towns	20	5	26	5	8	41	49	11
ST. LAWRENCE COUNTY	94	15	68	25	63	189	294	39
Ogdensburg, city	34	6	17	5	12	64	85	17
—*St. Lawrence State Hospital*	*22*	.....	*2*	*1*	*5*	*30*	*31*	*5*
Canton, village	3	2	4	1	1	8	7	.....
Gouverneur, village	4	1	3	1	6	14	18	3
Massena, village	1	.....	4	1	3	3	8	2
Potsdam, village	3	.....	3	.....	2	6	13	.....
Other villages	7	1	9	3	7	5	20	1
Towns	42	5	28	14	32	89	143	16
SARATOGA COUNTY	71	7	55	10	25	142	183	32
Saratoga Springs, village	15	1	16	4	4	38	51	7
Ballston Spa, village	8	.....	5	.....	1	10	11	3
Mechanicville, village	4	2	7	.....	3	7	10	5
Waterford, village	7	.....	.....	.....	.....	6	8	.....
Other villages	6	.....	5	1	5	21	19	5
Towns	31	4	22	5	12	60	84	12
SCHENECTADY COUNTY	94	15	47	11	43	118	205	49
Schenectady, city	59	13	35	10	38	93	162	42
Scotia, village	1	.....	3	1	1	4	11	1
Towns	34	2	9	.....	4	21	32	6
SCHOHARIE COUNTY	11	1	31	5	12	67	73	8
Villages	4	.....	10	.....	5	20	26	2
Towns	7	1	21	5	7	47	47	6
SCHUYLER COUNTY	2	4	21	9	8	33	64	1
Watkins, village	.....	2	3	3	3	8	12	.....
Other villages	1	1	8	2	1	1	15	.....
Towns	1	1	10	4	4	24	37	1
SENECA COUNTY	44	4	33	5	11	94	116	33
Seneca Falls, village	4	.....	3	1	1	21	24	5
Waterloo, village	1	1	5	3	3	7	25	.....
Other villages	2	.....	3	.....	.....	4	4	.....
Towns	37	3	22	1	7	62	63	28
—*Willard State Hospital*	*26*	*1*	*9*	.....	*4*	*32*	*27*	*25*
STEUBEN COUNTY	50	9	95	21	30	185	350	25
Corning, city	8	3	7	5	3	19	26	.....
Hornell, city	15	2	18	8	9	22	43	8
Bath, village	2	1	5	1	.....	14	14	3
Other villages	4	1	19	2	8	29	36	1
Towns	21	2	46	5	10	100	221	13
—*Soldiers and Sailors Home, Bath*	*3*	.....	7	.....	*1*	*25*	*112*	*3*
SUFFOLK COUNTY	178	19	95	21	50	422	249	101
Amityville, village	11	.....	2	3	4	31	12	2
Babylon, village	2	1	4	1	1	6	6	1
Greenport, village	5	1	4	4	1	13	10	.....
Patchogue, village	4	.....	5	1	1	7	6	2

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914** — (*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Lobar pneumonia, etc.	Other diseases of the respiratory system	Diarrhea and Enteritis		Other diseases of the digestive system	Bright's disease and nephritis	Other diseases of the genito urinary system	The puerperal state
			Under 2 years	Over 2 years				
RENSSELAER COUNTY	130	53	60	20	122	181	42	14
Rensselaer, city	18	5	1	3	11	8	1	.....
Troy, city	88	38	48	12	90	124	32	11
Hoosick Falls, village	2	3	5	1	4	9	.....	.....
Other villages	.....	1	1	1	4	2	2	.....
Towns	22	6	5	3	13	38	7	3
ROCKLAND COUNTY	36	18	17	4	34	38	9	4
Haverstraw, village	4	.....	3	.....	3	5	1	.....
Nyack, village	3	1	1	1	15	3	6	2
Suffern, village	2	2	.....	1	6	2	.....	.....
Other villages	11	1	5	1	3	10	.....	1
Towns	16	14	8	1	7	18	2	1
ST. LAWRENCE COUNTY	93	41	54	12	77	75	26	16
Ogdensburg, city	20	10	7	3	29	30	7	3
—*St. Lawrence State Hospital*	*6*	*4*	.....	*1*	*8*	*17*	*1*	.....
Canton, village	2	2	2	.....	3	5	2	1
Gouverneur, village	1	1	.....	1	5	1	3	.....
Massena, village	10	.....	5	1	1	.....	1	.....
Potsdam, village	5	2	3	.....	4	5	1	.....
Other villages	1	3	2	1	4	5	.....	2
Towns	54	23	35	6	31	29	12	10
SARATOGA COUNTY	56	23	39	14	30	94	12	9
Saratoga Springs, village	6	2	11	4	15	30	5	3
Ballston Spa, village	4	.....	2	5	1	2	1	.....
Mechanicville, village	5	4	5	.....	4	6	.....	1
Waterford, village	9	2	1	3	.....	.....	.....	2
Other villages	5	4	7	....	3	12	.....	.....
Towns	27	11	13	2	7	44	6	3
SCHENECTADY COUNTY	85	30	67	8	70	68	29	20
Schenectady, city	69	26	60	7	64	59	27	18
Scotia, village	4	3	3	.....	1	1	1	.....
Towns	12	1	4	1	5	8	1	2
SCHOHARIE COUNTY	17	5	2	3	16	35	10	2
Villages	3	1	1	.....	3	9	1	1
Towns	14	4	1	3	13	26	9	1
SCHUYLER COUNTY	9	6	1	3	16	11	6	4
Watkins, village	.....	1	.....	1	3	2	1	2
Other villages	3	2	.....	.....	2	1	1	.....
Towns	6	3	1	2	11	8	4	2
SENECA COUNTY	30	10	4	10	21	39	10	3
Seneca Falls, village	9	2	1	3	5	6	3	1
Waterloo, village	2	.....	1	.....	5	1	2	.....
Other villages	1	2	.....	.....	3	2	.....	.....
Towns	18	6	2	7	8	30	5	2
—*Willard State Hospital*	*13*	*2*	.....	*4*	*3*	*20*	*2*	.....
STEUBEN COUNTY	58	25	18	11	89	123	37	11
Corning, city	17	3	4	1	17	21	9	5
Hornell, city	3	5	3	.....	17	13	5	2
Bath, village	8	1	.....	1	4	7	4	.....
Other villages	6	7	1	2	15	10	7	1
Towns	24	9	10	7	36	72	12	3
—*Soldiers and Sailors Home, Bath*	*2*	.....	.....	*1*	*4*	*20*	.....	.....
SUFFOLK COUNTY	98	36	31	23	72	203	30	11
Amityville, village	3	3	.....	1	1	14	4	1
Babylon, village	3	2	.....	.....	5	4	.....	.....
Greenport, village	2	.....	1	.....	4	3	3	1
Patchogue, village	2	.....	2	.....	1	8	1	.....

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914** — (*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Congenital debility	Accidents	Suicides	Homicides	Ill-defined diseases	All other causes	Births: Total living births	Births: Stillbirths
RENSSELAER COUNTY	22	109	16	7	3	113	2,009	90
Rensselaer, city	3	7	3			14	152	4
Troy, city	16	77	8	4	3	80	1,365	65
Hoosick Falls, village		2				5	108	4
Other villages		2	1			1	44	3
Towns	3	21	4	3		13	340	14
ROCKLAND COUNTY	2	37	5	5		38	838	39
Haverstraw, village		2		1		5	116	2
Nyack, village		4	1			3	93	7
Suffern, village		4				6	75	2
Other villages		7				10	187	5
Towns	2	20	4	4		14	367	23
ST. LAWRENCE COUNTY	31	75	14		9	150	1,836	84
Ogdensburg, city	10	16	1		1	30	405	10
—*St. Lawrence State Hospital*		*2*	*1*			*1*		
Canton, village						6	40	3
Gouverneur, village	1	2				6	66	2
Massena, village	4	1	1			10	105	9
Potsdam, village	1	1	1			7	92	1
Other villages	1	7	3		1	7	99	4
Towns	14	48	8		7	84	1,029	55
SARATOGA COUNTY	12	51	9	4	4	78	1,237	52
Saratoga Springs, village	1	11	4	2		16	251	7
Ballston Spa, village	2	2				3	47	1
Mechanicville, village	1	6	1			12	285	17
Waterford, village		1					52	4
Other villages	1	3				6	156	4
Towns	7	28	4	2	4	41	446	19
SCHENECTADY COUNTY	23	76	11	5	2	121	2,485	98
Schenectady, city	22	52	10	4	1	104	2,157	88
Scotia, village		2				4	68	2
Towns	1	22	1	1	1	13	260	8
SCHOHARIE COUNTY	2	15		1	1	26	340	13
Villages	1	7				8	85	2
Towns	1	8		1	1	18	255	11
SCHUYLER COUNTY	2	10	2		1	23	242	17
Watkins, village		4				6	57	2
Other villages					1	3	28	2
Towns	2	6	2			14	157	13
SENECA COUNTY	2	23	8			29	457	17
Seneca Falls, village	1	5				3	159	5
Waterloo, village	1	3	1			6	72	5
Other villages		1				5	19	0
Towns		14	7			15	207	7
—*Willard State Hospital*			4					
STEUBEN COUNTY	18	85	8	2	2	97	1,450	67
Corning, city	6	14		2		26	280	19
Hornell, city	4	20			1	12	267	16
Bath, village	1	2				7	62	2
Other villages	1	14				15	214	8
Towns	6	35	8		1	37	627	22
—*Soldiers and Sailors Home, Bath*		*3*				*1*		
SUFFOLK COUNTY	21	79	21	2	3	70	1,990	82
Amityville, village	1	1	3				30	3
Babylon, village	1	4				1	67	5

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914 —** *(Continued)*

STATE AND SUBDIVISIONS, BY COUNTIES	Total deaths	Age in Years: Under 1	1 to 4	5 to 19	20 to 39	40 to 59	60 and over	Unknown
SUFFOLK COUNTY (*Continued*)								
Sag Harbor, village	51	5	1	3	5	7	30	.....
Southampton, village	43	.....	2	3	10	13	15	.....
Other villages	36	.....	3	2	4	5	22	.....
Towns	1,620	111	37	48	297	466	660	1
—Central Islip State Hospital	*411*	.....	.....	*3*	*115*	*167*	*126*	.....
—Kings Park State Hospital	*286*	.....	.....	*2*	*72*	*118*	*94*	.....
SULLIVAN COUNTY	737	54	17	30	179	159	297	1
Villages	156	10	5	7	53	33	48	.....
Towns	581	44	12	23	126	126	249	1
TIOGA COUNTY	402	29	10	17	35	58	253	.....
Owego, village	104	8	2	3	11	19	61	.....
Waverly, village	64	6	2	2	7	9	38	.....
Other villages	46	1	3	1	.....	8	33	.....
Towns	188	14	3	11	17	22	21	.....
TOMPKINS COUNTY	536	56	10	18	50	103	298	1
Ithaca, city	246	20	5	10	30	57	123	1
Villages	57	2	.....	1	2	14	38	.....
Towns	233	34	5	7	18	32	137	.....
ULSTER COUNTY	1,318	130	55	71	174	291	596	1
Kingston, city	488	41	23	33	74	122	195	.....
Ellenville, village	51	3	2	2	8	9	27	.....
Saugerties, village	60	1	.....	3	6	13	37	.....
Other villages	47	7	2	3	3	10	22	.....
Towns	672	78	28	30	83	137	315	1
WARREN COUNTY	546	64	20	29	65	122	246	.....
Glens Falls, city	290	37	11	11	38	75	118	.....
Other villages	12	3	.....	1	.....	2	6	.....
Towns	244	24	9	17	27	45	122	.....
WASHINGTON COUNTY	699	95	31	24	55	112	380	2
Fort Edward, village	54	9	6	1	9	7	22	.....
Granville, village	54	4	4	5	7	10	24	.....
Hudson Falls, village	69	18	2	1	4	13	30	1
Whitehall, village	69	15	2	3	5	13	31	.....
Other villages	115	6	3	4	10	14	77	1
Towns	338	43	14	10	20	55	196	.....
WAYNE COUNTY	691	92	22	21	54	121	380	1
Clyde, village	39	7	1	2	2	5	22	.....
Lyons, village	79	12	2	2	10	21	32	.....
Newark, village	89	10	5	3	7	17	47	.....
Other villages	61	5	.....	4	5	8	39	.....
Towns	423	58	14	10	30	70	240	1
WESTCHESTER COUNTY	4,035	642	314	230	631	869	1,346	3
Mount Vernon, city	390	69	24	15	41	80	161	.....
New Rochelle, city	357	57	20	27	55	86	112	.....
Ossining, village	187	16	7	9	42	35	78	.....
Peekskill, village	255	43	25	16	27	45	99	.....
Port Chester, village	194	36	26	12	25	42	53	.....
White Plains, village	258	41	14	10	45	62	86	.....
—Bloomingdale Asylum	*24*	.....	.....	.....	*4*	*9*	*11*	.....
Yonkers, city	1,094	222	117	70	193	247	245	.....
Dobbs Ferry, village	46	4	1	2	7	13	19	.....
Hastings-on-Hudson, village	34	6	3	.....	7	6	12	.....
Mamaroneck, village	69	17	7	4	4	12	25	.....
Mount Kisco, village	38	9	1	1	5	6	16	.....
North Tarrytown, village	63	15	6	5	6	9	22	.....

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914** — (*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Epidemic Diseases									
	Typhoid fever	Malaria	Smallpox	Measles	Scarlet fever	Whooping cough	Diphtheria and croup	Influenza	Erysipelas	Cerebrospinal meningitis
SUFFOLK COUNTY—(*Continued*)										
Patchogue, village								1		1
Sag Harbor, village								1		
Southampton, village										1
Other villages					2			2	1	
Towns	3			1	1	3	9	15	9	
—*Central Islip State Hospital*									3	
—*Kings Park State Hospital*	2								1	
SULLIVAN COUNTY	5	1		3	1		2	2		1
Villages	1				1		1			
Towns	4	1		3			1	2		1
TIOGA COUNTY	5				1		1	4		1
Owego, village										
Waverly, village	4						1	1		1
Other villages								1		
Towns	1				1			2		
TOMPKINS COUNTY	6						1	2	1	1
Ithaca, city	5							1		1
Villages	1						1	1		
Towns									1	
ULSTER COUNTY	14	2		10	7		9	14	3	1
Kingston, city	2	1		7	2		2	6	1	
Ellenville, village										
Saugerties, village								1		
Other villages	1							1	1	1
Towns	11	1		3	5		7	6	1	
WARREN COUNTY	8	1				2	1	3		1
Glens Falls, city	5					1		2		1
Other villages										
Towns	3	1				1	1	1		
WASHINGTON COUNTY	4					3	4	17	1	1
Fort Edward, village							1			
Granville, village							1	1		
Hudson Falls, village								3	1	
Whitehall, village	2					1	1	1		
Other villages	1							2		
Towns	1					2	1	10		1
WAYNE COUNTY	5			1		3	6	8	2	3
Clyde, village	1						1			
Lyons, village							1	1		
Newark, village						1	3	1		1
Other villages										
Towns	4			1		2	1	6	2	2
WESTCHESTER COUNTY	16	4	1	43	14	32	57	26	16	17
Mount Vernon, city				3			3	3	4	1
New Rochelle, city				2	1	2	4	1	3	2
Ossining, village	1			1				1	1	
Peekskill, village	2	2		6		6	7	3	1	
Port Chester, village	2			3	3		3	5	1	1
White Plains, village	3					4	2	1		
—*Bloomingdale Asylum*										
Yonkers, city	4	1	1	16	4	6	27	4	3	10
Dobbs Ferry, village						1				
Hastings-on-Hudson, village				1						
Mamaroneck, village							2	1	1	

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914** — (*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Pulmonary tuberculosis	Other forms of tuberculosis	Cancer and other malignant tumors	Diabetes	Other general diseases	Diseases of the nervous system	Diseases of the circulatory system	Bronchopneumonia
SUFFOLK COUNTY — (*Continued*)								
Patchogue, village	4	.....	5	1	1	7	6	2
Sag Harbor, village	3	1	5	.....	2	4	9	5
Southampton, village	3	.....	3	.....	1	6	3	.....
Other villages	2	1	4	.....	.....	2	12	.....
Towns	148	15	68	12	49	353	291	91
—*Central Islip State Hospital*	*52*	*3*	*6*	.....	*10*	*139*	*67*	*41*
—*Kings Park State Hospital*	*36*	*1*	*8*	*1*	*3*	*96*	*48*	*30*
SULLIVAN COUNTY	208	7	26	10	8	95	122	7
Villages	74	.....	3	.....	1	16	20	3
Towns	34	7	23	10	7	79	102	4
TIOGA COUNTY	11	3	28	2	13	82	72	6
Owego, village	4	1	10	.....	4	10	24	2
Waverly, village	.....	.....	4	.....	3	12	8	3
Other villages	1	1	3	1	.....	12	9	.....
Towns	6	1	11	1	6	48	31	1
TOMPKINS COUNTY	26	6	41	7	29	82	101	4
Ithaca, city	17	3	19	5	11	33	44	2
Villages	1	.....	4	1	7	8	17	.....
Towns	8	3	18	1	11	41	40	2
ULSTER COUNTY	144	16	92	8	29	198	230	26
Kingston, city	46	12	45	4	13	71	82	9
Ellenville, village	5	.....	4	.....	2	5	9	3
Saugerties, village	8	1	4	1	1	6	10	1
Other villages	2	1	1	.....	1	7	6	.....
Towns	83	2	38	3	12	109	123	13
WARREN COUNTY	40	5	40	9	16	62	113	9
Glens Falls, city	22	4	21	5	8	36	62	4
Other villages	.....	.....	2	.....	1	.....	4	.....
Towns	18	1	17	4	7	26	47	5
WASHINGTON COUNTY	35	7	36	6	16	105	133	16
Fort Edward, village	1	.....	2	.....	2	9	10	.....
Granville, village	5	1	3	1	2	6	8	.....
Hudson Falls, village	3	.....	5	.....	3	13	12	.....
Whitehall, village	2	1	4	.....	2	8	9	3
Other villages	7	2	5	.....	.....	16	32	4
Towns	17	3	17	5	7	53	62	9
WAYNE COUNTY	29	6	59	14	13	103	137	18
Clyde, village	1	1	4	.....	2	3	11	2
Lyons, village	4	.....	4	1	.....	10	12	2
Newark, village	2	.....	8	2	1	14	17	4
Other villages	3	1	6	3	2	12	15	1
Towns	19	4	37	8	8	64	82	9
WESTCHESTER COUNTY	374	69	287	50	115	358	611	133
Mount Vernon, city	18	9	29	6	9	39	57	11
New Rochelle, city	22	2	28	5	9	39	54	14
Ossining, village	18	3	14	2	6	23	30	4
Peekskill, village	17	2	14	4	4	31	39	8
Port Chester, village	13	5	11	1	4	13	22	15
White Plains, village	18	6	19	3	11	24	51	12
—*Bloomingdale Asylum*	.....	.....	.....	.....	*3*	*8*	*4*	*1*
Yonkers, city	106	23	64	9	40	87	151	37
Dobbs Ferry, village	1	.....	6	1	2	3	8	.....
Hastings-on-Hudson, village	4	1	1	.....	1	3	6	3
Mamaroneck, village	2	2	3	1	1	3	14	5

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914** — (*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Lobar pneumonia, etc.	Other diseases of the respiratory system	Diarrhea and Enteritis		Other diseases of the digestive system	Bright's disease and nephritis	Other diseases of the genito urinary system	The puerperal state
			Under 2 years	Over 2 years				
SUFFOLK COUNTY (*Continued*)								
Patchogue, village	2	.....	2	.....	1	8	1	.....
Sag Harbor, village	3	.....	4	.....	2	6	.....	.....
Southampton, village	4	1	.....	.....	2	10	.....	.....
Other villages	3	.....	.....	.....	.....	3	.....	.....
Towns	78	30	24	22	57	155	22	9
—*Central Islip State Hospital*	*17*	*4*	.....	*2*	*3*	*52*	*7*	.....
—*Kings Park State Hospital*	*11*	*3*	.....	*17*	*6*	*15*	*3*	.....
SULLIVAN COUNTY	34	20	10	7	47	28	9	5
Villages	4	3	2	1	8	5	2	1
Towns	30	17	8	6	39	23	7	4
TIOGA COUNTY	31	7	4	4	23	36	6	2
Owego, village	7	3	2	.....	7	10	.....	.....
Waverly, village	10	2	.....	2	2	3	1	.....
Other villages	4	.....	.....	.....	3	5	1	.....
Towns	10	2	2	2	11	18	4	2
TOMPKINS COUNTY	24	14	15	4	25	52	17	3
Ithaca, city	10	5	9	.....	13	30	7	2
Villages	2	.....	1	2	1	4	1	.....
Towns	12	9	5	2	11	18	9	1
ULSTER COUNTY	58	36	28	12	79	85	39	13
Kingston, city	22	15	9	2	32	26	16	6
Ellenville, village	3	.....	1	.....	4	3	1	1
Saugerties, village	3	1	.....	1	7	4	5	.....
Other villages	2	3	1	.....	3	4	2	1
Towns	28	17	17	9	33	48	15	5
WARREN COUNTY	24	16	10	6	40	25	8	6
Glens Falls, city	8	8	4	1	22	11	7	2
Other villages	.....	.....	.....	1	.....	1	.....	1
Towns	16	8	6	4	18	13	1	3
WASHINGTON COUNTY	32	16	31	13	26	82	7	4
Fort Edward, village	3	.....	3	2	2	4	.....	.....
Granville, village	2	.....	3	1	1	8	1	.....
Hudson Falls, village	4	2	6	.....	2	2	1	1
Whitehall, village	3	2	6	3	1	8	1	.....
Other villages	6	2	1	2	4	12	.....	.....
Towns	14	10	12	5	16	48	4	3
WAYNE COUNTY	20	25	24	8	36	46	19	4
Clyde, village	.....	.....	3	.....	.....	6	.....	1
Lyons, village	3	3	5	.....	4	9	2	2
Newark, village	3	2	3	3	3	7	2	.....
Other villages	2	1	.....	1	1	1	4	.....
Towns	12	19	13	4	28	23	11	1
WESTCHESTER COUNTY	241	94	226	38	193	332	77	35
Mount Vernon, city	18	8	25	4	18	53	10	4
New Rochelle, city	23	8	15	2	24	35	5	2
Ossining, village	15	1	4	1	11	16	5	2
Peekskill, village	10	9	15	4	18	17	8	2
Port Chester, village	13	8	12	2	8	11	6	.....
White Plains, village	16	5	9	.....	10	16	4	3
—*Bloomingdale Asylum*	*2*	*1*	.....	.....	.....	*3*	.....	.....
Yonkers, city	66	16	93	9	54	59	26	18

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914** — (*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Congenital debility	Accidents	Suicides	Homicides	Ill-defined diseases	All other causes	Births: Total living births	Births: Stillbirths
SUFFOLK COUNTY (*Continued*)								
Greenport, village	.....	3	1	.....	.....	.....	71	6
Patchogue, village	2	1	1	.....	.....	3	87	1
Sag Harbor, village	.....	3	.....	.....	1	2	73	3
Southampton, village	.....	7	2	.....	.....	.....	54	1
Other villages	1	2	.....	.....	.....	1	54	2
Towns	16	58	14	2	2	63	1,554	61
—*Central Islip State Hospital*	.....	*1*	*2*	.....	.....	*2*	.....	.....
—*Kings Park State Hospital*	.....	*2*	.....	.....	.....	*3*	.....	.....
SULLIVAN COUNTY	2	23	6	1	3	44	564	23
Villages	1	2	.....	.....	.....	7	79	1
Towns	1	21	6	1	3	37	485	22
TIOGA COUNTY	.....	29	6	1	.....	24	398	16
Owego, village	.....	8	1	.....	.....	11	55	1
Waverly, village	.....	4	.....	.....	.....	3	80	3
Other villages	.....	4	.....	.....	.....	1	43	3
Towns	.....	13	5	1	.....	9	220	9
TOMPKINS COUNTY	4	27	5	2	.....	37	649	33
Ithaca, city	3	10	2	2	.....	12	312	21
Villages	.....	1	1	.....	.....	3	61	.....
Towns	1	16	2	.....	.....	22	276	12
ULSTER COUNTY	13	68	14	1	4	65	1,571	74
Kingston, city	3	27	7	.....	.....	20	446	26
Ellenville, village	.....	7	.....	.....	1	2	50	2
Saugerties, village	1	2	1	.....	.....	2	61	1
Other villages	1	2	1	.....	1	4	64	.....
Towns	8	30	5	1	2	37	950	45
WARREN COUNTY	4	34	4	.....	2	57	606	23
Glens Falls, city	3	19	2	.....	2	30	322	7
Other villages	.....	.....	.....	.....	.....	2	14	.....
Towns	1	15	2	.....	.....	25	270	16
WASHINGTON COUNTY	9	37	9	.....	2	47	851	34
Fort Edward, village	.....	7	.....	.....	.....	8	101	4
Granville, village	.....	5	3	.....	.....	2	81	4
Hudson Falls, village	.....	2	.....	.....	.....	9	116	4
Whitehall, village	2	5	1	.....	1	2	110	5
Other villages	1	9	1	.....	1	7	80	4
Towns	6	9	4	.....	.....	19	363	13
WAYNE COUNTY	8	38	11	.....	1	44	1,088	31
Clyde, village	.....	1	1	.....	.....	1	82	.....
Lyons, village	2	8	.....	.....	.....	6	109	4
Newark, village	2	4	2	.....	.....	4	130	5
Other villages	.....	4	2	.....	.....	2	77	5
Towns	4	21	6	.....	1	31	690	17
WESTCHESTER COUNTY	28	227	42	11	11	257	7,643	353
Mount Vernon, city	4	20	5	1	.....	28	906	45
New Rochelle, city	1	20	4	2	.....	28	736	23
Ossining, village	3	*15	1	1	1	7	175	8
Peekskill, village	2	7	.....	.....	.....	17	306	12
Port Chester, village	3	18	1	.....	2	8	559	32
White Plains, village	2	15	3	1	.....	20	521	32
—*Bloomingdale Asylum*	.....	.....	*1*	.....	.....	*1*	.....	.....
Yonkers, city	5	61	10	1	.....	83	2,517	109

* Includes 8 deaths from judicial electrocutions.

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914** — (*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Total deaths	Age in Years						
		Under 1	1 to 4	5 to 19	20 to 39	40 to 59	60 and over	Unknown
WESTCHESTER COUNTY — (*Continued*)								
Rye, village	42	8	2	3	0	5	24	.....
Tarrytown, village	75	10	2	8	11	13	31	.....
Tuckahoe, village	45	15	8	4	6	10	2	.....
Other villages	193	22	12	9	23	50	77	.....
Towns	695	52	39	35	134	148	284	3
WYOMING COUNTY	411	40	9	15	40	61	245	1
Perry, village	42	6	.....	3	8	8	17	.....
Warsaw, village	56	4	2	4	8	7	31	.....
Other villages	78	2	1	.....	9	11	55	.....
Towns	235	28	6	8	15	35	142	1
YATES COUNTY	275	20	3	5	18	40	188	1
Penn Yan, village	80	9	.....	.....	8	12	51	.....
Other villages	41	1	1	.....	2	5	32	.....
Towns	154	10	2	5	8	23	105	1

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914** — (*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Epidemic Diseases									
	Typhoid fever	Malaria	Smallpox	Measles	Scarlet fever	Whooping cough	Diphtheria and croup	Influenza	Erysipelas	Cerebrospinal meningitis
WESTCHESTER COUNTY — (*Continued*)										
Mount Kisco, village	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
North Tarrytown, village	.....	.....	.....	.....	.....	1	3	.....	.....	1
Rye, village	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Tarrytown, village	1	.....	.....	1	.....	1	.....	.....	.....	.....
Tuckahoe, village	.....	.....	.....	.....	1	1	.....	.....	.....	.....
Other villages	1	.....	.....	.....	3	3	1	1	.....	1
Towns	2	1	.....	10	2	6	5	5	2	1
WYOMING COUNTY	.....	.....	.....	.....	1	.....	1	8	1	1
Perry, village	.....	.....	.....	.....	.....	.....	1	.....	.....	.....
Warsaw, village	.....	.....	.....	.....	.....	.....	.....	.....	1	1
Other villages	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Towns	.....	.....	.....	.....	1	.....	.....	7	.....	.....
YATES COUNTY	.....	.....	.....	.....	.....	1	.....	11	.....	.....
Penn Yan, village	.....	.....	.....	.....	.....	.....	.....	3	.....	.....
Other villages	.....	.....	.....	.....	.....	.....	.....	3	.....	.....
Towns	.....	.....	.....	.....	.....	1	.....	5	.....	.....

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914** — (*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Pulmonary tuberculosis	Other forms of tuberculosis	Cancer and other malignant tumors	Diabetes	Other general diseases	Diseases of the nervous system	Diseases of the circulatory system	Bronchopneumonia
WESTCHESTER COUNTY — (*Continued*)								
Mount Kisco, village	2	1	3	1	2	4	4	.....
North Tarrytown, village	7	1	2	3	1	5	9	2
Rye, village	.....	.....	1	.....	.....	4	10	2
Tarrytown, village	4	.....	8	3	.....	7	11	1
Tuckahoe, village	4	.....	2	.....	1	1	4	2
Other villages	14	4	30	1	2	15	33	6
Towns	124	10	52	10	22	57	108	11
WYOMING COUNTY	15	6	37	3	15	65	86	7
Perry, village	5	.....	4	.....	1	3	8	.....
Warsaw, village	1	2	5	.....	1	11	8	2
Other villages	2	1	10	1	3	13	20	2
Towns	7	3	18	2	10	38	50	3
YATES COUNTY	10	3	21	1	7	50	66	3
Penn Yan, village	2	1	7	.....	2	13	16	.....
Other villages	2	1	3	.....	.....	9	6	.....
Towns	6	1	11	1	5	28	44	3

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914** — (*Continued*)

STATE AND SUBDIVISIONS, BY COUNTIES	Lobar pneumonia, etc.	Other diseases of the respiratory system	Diarrhea and Enteritis		Other diseases of the digestive system	Bright's disease and nephritis	Other diseases of the genitourinary system	The puerperal state
			Under 2 years	Over 2 years				
WESTCHESTER COUNTY — (*Continued*)								
Dobbs Ferry, village	6	3	1	.....	3	5	.....	.....
Hastings-on-Hudson, village	1	1	1	.....	1	1	.....	.....
Mamaroneck, village	6	4	6	2	2	3	1	.....
Mount Kisco, village	.....	2	1	1	.....	4	.....	1
North Tarrytown, village	5	1	3	1	2	7	.....	.....
Rye, village	4	3	1	.....	2	5	2	.....
Tarrytown, village	5	2	2	1	3	8	3	1
Tuckahoe, village	3	2	7	.....	4	5	.....	.....
Other villages	15	3	6	5	9	13	.....	.....
Towns	35	18	25	6	24	74	7	2
WYOMING COUNTY	21	11	8	3	25	23	18	6
Perry, village	1	1	3	1	3	3	3	.....
Warsaw, village	2	.....	.....	.....	7	4	4	1
Other villages	1	2	.....	1	2	6	1	2
Towns	17	8	5	1	13	10	10	3
YATES COUNTY	10	8	5	3	16	22	10	.....
Penn Yan, village	6	2	2	.....	5	6	5	.....
Other villages	.....	.....	1	1	2	7	2	.....
Towns	4	6	2	2	9	9	3	.....

Digitized by Google

Table 13 — STATE OF NEW YORK, NEW YORK CITY, AND REST OF STATE: *Deaths for important age periods, etc.:* **1914** — (*Concluded*)

STATE AND SUBDIVISIONS, BY COUNTIES	Congenital debility	Accidents	Suicides	Homicides	Ill-defined diseases	All other causes	Births	
							Total living births	Stillbirths
WESTCHESTER COUNTY — (*Continued*)								
Dobbs Ferry, village	.....	3	1	.....	....	2	84	9
Hastings-on-Hudson, village	.....	4	3	.....	....	2	153	4
Mamaroneck, village	2	2	.....	.....	....	6	142	9
Mount Kisco, village	.....	4	1	.....	....	6	81	2
North Tarrytown, village	2	.....	1	.....	....	6	148	4
Rye, village	.....	3	.....	.....	....	4	50	5
Tarrytown, village	1	7	1	.....	....	4	79	6
Tuckahoe, village	.....	1	1	.....	....	6	138	5
Other villages	1	11	2	.....	1	12	327	18
Towns	2	36	8	5	7	18	721	30
WYOMING COUNTY	4	19	3	1	....	23	616	21
Perry, village	1	2	.....	.....	....	2	113	6
Warsaw, village	1	2	.....	.....	....	3	57	1
Other villages	.....	4	2	1	....	3	108	3
Towns	2	11	1	.....	....	15	338	11
YATES COUNTY	3	9	4	.....	....	12	291	11
Penn Yan, village	2	3	1	.....	....	4	81	3
Other villages	.....	2	1	.....	....	1	22	1
Towns	1	4	2	.....	....	7	188	7

Digitized by Google

Table 14 — STATE INSTITUTIONS (EXCLUSIVE OF THOSE IN NEW YORK CITY): *Deaths for important age periods and from important causes:* **1914**

[Statement of population July 1, 1914, and also July 1, 1915 in Note.]

STATE INSTITUTION AND COUNTY IN WHICH SITUATED	Age in Years						
	Total deaths	Under 1	1 to 4	5 to 19	20 to 39	40 to 59	60 and over
All deaths in State Institutions, 1914	**2,664**	**1**	**4**	**58**	**540**	**836**	**1,225**
Auburn State Prison (Cayuga county)	11	.....	.....	.....	7	3	1
Binghamton State Hospital (Broome county)	194	.....	.....	.....	23	67	104
Bloomingdale Asylum, White Plains (Westchester county)	24	.....	.....	.....	4	9	11
Buffalo State Hospital (Erie county)	157	0	1	0	20	55	81
Central Islip State Hospital (Suffolk county)	411	0	0	3	115	167	126
Craig Colony, Sonyea (Livingston county)	111	0	0	21	55	26	9
Dannemora State Hospital (Clinton county)	5	0	0	0	2	3	0
Eastern New York Reformatory, Napanoch (Ulster county)	2	0	0	0	2	0	0
Elmira State Reformatory (Chemung county)	5	0	0	1	4	0	0
Gowanda State Hospital (Erie county)	57	0	0	0	8	16	33
Great Meadow Prison, Comstock (Washington county)	1	0	0	0	1	0	0
Hudson River State Hospital (Dutchess county)	291	0	0	1	58	90	142
Kings Park State Hospital (Suffolk county)	286	0	0	2	72	118	94
Letchworth Village, Thiells (Rockland county)	1	0	0	0	1	0	0
Matteawan State Hospital (Dutchess county)	46	0	0	0	14	18	14
Middletown State Hospital (Orange county)	113	0	0	2	16	32	63
Newark State Custodial Asylum (Wayne county)	3	0	0	0	3	0	0
Raybrook Hospital for Incipient Tuberculosis (Essex county)	5	0	0	0	5	0	0
Rochester State Hospital (Monroe county)	151	0	0	0	13	65	73
Rome State Custodial Asylum (Oneida county)	101	0	3	21	49	22	6
St. Lawrence State Hospital (St. Lawrence county)	138	1	.....	1	18	43	75
Sing Sing Prison (Westchester county)	17	0	0	0	16	1	0
State Institution for Feeble-Minded Children, Syracuse (Onondaga county)	6	0	0	4	2	0	0
State Reformatory for Women, Bedford (Westchester county)	1	0	0	0	1	0	0
State School for the Blind, Batavia (Genesee county)	1	0	0	0	0	0	1
State Soldiers' and Sailors' Home, Bath (Steuben county)	182	0	0	0	1	0	181
State Training School for Girls, Hudson (Columbia county)	1	0	0	1	0	0	0
Utica State Hospital (Oneida county)	143	0	0	1	19	51	72
Willard State Hospital (Seneca county)	176	0	0	0	11	50	115
Woman's Relief Corps Home, Oxford (Chenango county)	24	0	0	0	0	0	24

Digitized by Google

Table 14 — STATE INSTITUTIONS (EXCLUSIVE OF THOSE IN NEW YORK CITY): *Deaths for important age periods and from important causes:* **1914** — (*Continued*)

STATE INSTITUTION AND COUNTY IN WHICH SITUATED	Epidemic Diseases						
	Typhoid fever	Malaria	Measles	Scarlet fever	Diphtheria and croup	Erysipelas	Cerebrospinal meningitis
All deaths in State Institutions, 1914	23	1	1	1	1	10	1
Auburn State Prison (Cayuga county)							
Binghamton State Hospital (Broome county)						1	
Bloomingdale Asylum, White Plains (Westchester county)							
Buffalo State Hospital (Erie county)	2			1		2	
Central Islip State Hospital (Suffolk county)						3	
Craig Colony, Sonyea (Livingston county)	13						
Dannemora State Hospital (Clinton county)							
Eastern New York Reformatory, Napanoch (Ulster county)							
Elmira State Reformatory (Chemung county)							
Gowanda State Hospital (Erie county)							
Great Meadow Prison, Comstock (Washington county)							
Hudson River State Hospital (Dutchess county)	1	1	1			3	
Kings Park State Hospital (Suffolk county)	2					1	
Letchworth Village, Thiells (Rockland county)							
Matteawan State Hospital (Dutchess county)							
Middletown State Hospital (Orange county)							1
Newark State Custodial Asylum (Wayne county)							
Raybrook Hospital for Incipient Tuberculosis (Essex county)							
Rochester State Hospital (Monroe county)							
Rome State Custodial Asylum (Oneida county)	1				1		
St. Lawrence State Hospital (St. Lawrence county)							
Sing Sing Prison (Westchester county)							
State Institution for Feeble-Minded Children, Syracuse (Onondaga county)							
State Reformatory for Women, Bedford (Westchester county)							
State School for the Blind, Batavia (Genesee county)							
State Soldiers' and Sailors' Home, Bath (Steuben county)							
State Training School for Girls, Hudson (Columbia county)							
Utica State Hospital (Oneida county)							
Willard State Hospital (Seneca county)	4						
Woman's Relief Corps Home, Oxford (Chenango county)							

Digitized by Google

Table 14 — STATE INSTITUTIONS (EXCLUSIVE OF THOSE IN NEW YORK CITY): *Deaths for important age periods and from important causes:* **1914** — (*Continued*)

STATE INSTITUTION AND COUNTY IN WHICH SITUATED	Pulmonary tuberculosis	Other forms of tuberculosis	Cancer and other malignant tumors	Diabetes	Other general diseases	Diseases of the nervous system	Diseases of the circulatory system	Bronchopneumonia	Lobar pneumonia, etc.	Other diseases of the respiratory system
All deaths in State Institutions, 1914	**370**	**30**	**79**	**8**	**55**	**656**	**581**	**227**	**141**	**37**
Auburn State Prison (Cayuga county)	3	.....	1	.....	.....	1	1	.....	.....	.....
Binghamton State Hospital (Broome county)	17	1	13	.....	2	24	52	12	17	6
Bloomingdale Asylum, White Plains (Westchester county)	.....	.....	.....	.....	3	8	4	1	2	1
Buffalo State Hospital (Erie county)	15	.....	4	1	4	40	37	14	16	2
Central Islip State Hospital (Suffolk county)	52	3	6	.....	10	139	67	41	17	4
Craig Colony, Sonyea (Livingston county)	16	2	1	1	.....	38	6	12	6	.....
Dannemora State Hospital (Clinton county)	2	.....	.....	.....	.....	2	1	.....	.....	.....
Eastern New York Reformatory, Napanoch (Ulster county)	.....	.....	.....	.....	.....	1	1	.....	.....	.....
Elmira State Reformatory (Chemung county)	1	.....	.....	.....	1	.....	.....	.....	.....	.....
Gowanda State Hospital (Erie county)	9	.....	6	.....	2	22	7	2	1	1
Great Meadow Prison, Comstock (Washington county)	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Hudson River State Hospital (Dutchess county)	51	12	4	1	2	62	68	37	11	9
Kings Park State Hospital (Suffolk county)	36	1	8	1	3	96	48	30	11	3
Letchworth Village, Thiells (Rockland county)	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Matteawan State Hospital (Dutchess county)	14	1	.....	.....	.....	15	5	3	.....	.....
Middletown State Hospital (Orange county)	15	2	5	.....	2	28	21	1	2	2
Newark State Custodial Asylum (Wayne county)	1	.....	1	.....	.....	.....	.....	.....	1	.....
Raybrook Hospital for Incipient Tuberculosis (Essex county)	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rochester State Hospital (Monroe county)	20	2	3	1	1	37	32	31	7	1
Rome State Custodial Asylum (Oneida county)	43	3	1	.....	1	5	18	3	9	1
St. Lawrence State Hospital (St. Lawrence county)	22	.....	2	1	3	30	31	8	6	4
Sing Sing Prison (Westchester county)	4	.....	.....	.....	.....	1	1	.....	3	.....
State Institution for Feeble-Minded Children, Syracuse (Onondaga county)	1	1	1	.....	.....	.....	.....	.....	2	.....
State Reformatory for Women, Bedford (Westchester county)	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
State School for the Blind, Batavia (Genesee county)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
State Soldiers and Sailors' Home, Bath (Steuben county)	3	.....	7	.....	1	25	112	3	2	.....
State Training School for Girls, Hudson (Columbia county)	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Utica State Hospital (Oneida county)	13	1	5	1	13	44	34	3	13	.....
Willard State Hospital (Seneca county)	26	1	9	.....	4	32	27	25	13	2
Woman's Relief Corps Home, Oxford (Chenango county)	.....	.....	2	1	2	5	8	1	1	1

Digitized by Google

Table 14 — STATE INSTITUTIONS (EXCLUSIVE OF THOSE IN NEW YORK CITY): *Deaths for important age periods and from important causes:* **1914** — (*Concluded*)

STATE INSTITUTION AND COUNTY IN WHICH SITUATED	Diarrhea and Enteritis		Other diseases of the digestive system	Bright's disease and nephritis	Other diseases of the genitourinary system	The puerperal state	Congenital debility	Accidents	Suicides	Homicides	Ill-defined diseases	All other causes
	Under 2 years	Over 2 years										
All deaths in State Institutions, 1914	...	**59**	**69**	**225**	**20**	**1**	...	**37**	**13**	...	...	**18**
Auburn State Prison (Cayuga county)	...	1	...	...	1	...	...	3	...	...	...	...
Binghamton State Hospital (Broome county)	...	3	5	34	1	...	...	4	1	...	...	1
Bloomingdale Asylum, White Plains (Westchester county)	...	...	...	3	...	...	...	...	1	...	...	1
Buffalo State Hospital (Erie county)	...	3	2	12	...	...	...	2	...	...	...	...
Central Islip State Hospital (Suffolk county)	...	2	3	52	7	...	...	1	2	...	...	2
Craig Colony, Sonyea (Livingston county)	...	1	3	4	...	1	...	6	1	...	...	...
Dannemora State Hospital (Clinton county)	...	...	...	...	...	...	...	...	...	...	...	...
Eastern New York Reformatory, Napanoch (Ulster county)	...	...	...	...	...	...	...	...	...	...	...	...
Elmira State Reformatory (Chemung county)	...	...	1	...	...	...	...	2	...	...	...	...
Gowanda State Hospital (Erie county)	...	...	3	2	...	...	...	1	...	...	...	1
Great Meadow Prison, Comstock (Washington county)	...	...	...	...	...	...	...	...	...	...	...	...
Hudson River State Hospital (Dutchess county)	...	6	12	5	1	...	...	2	...	...	...	2
Kings Park State Hospital (Suffolk county)	...	17	6	15	3	...	...	2	...	...	...	3
Letchworth Village, Thiells (Rockland county)	...	...	...	...	...	...	...	...	...	...	...	...
Matteawan State Hospital (Dutchess county)	...	1	1	5	1	...	...	...	...	...	...	...
Middletown State Hospital (Orange county)	...	1	4	24	2	...	...	1	1	...	...	1
Newark State Custodial Asylum (Wayne county)	...	...	...	...	...	...	...	...	...	...	...	...
Raybrook Hospital for Incipient Tuberculosis (Essex county)	...	...	...	...	...	...	...	...	...	...	...	...
Rochester State Hospital (Monroe county)	...	5	6	4	...	...	...	...	1	...	...	...
Rome State Custodial Asylum (Oneida county)	...	10	3	...	1	...	...	...	...	...	...	1
St. Lawrence State Hospital (St. Lawrence county)	...	1	8	17	1	...	...	2	1	...	...	1
Sing Sing Prison (Westchester county)	...	...	...	...	...	...	...	8	...	...	...	...
State Institution for Feeble-Minded Children, Syracuse (Onondaga county)	...	...	...	...	...	...	...	...	...	...	...	1
State Reformatory for Women, Bedford (Westchester county)	...	...	...	...	...	...	...	...	...	...	...	...
State School for the Blind, Batavia (Genesee county)	...	...	...	1	...	...	...	...	...	...	...	...
State Soldiers' and Sailors' Home, Bath (Steuben county)	...	1	4	20	...	...	...	3	...	...	...	1
State Training School for Girls, Hudson (Columbia county)	...	...	...	...	...	...	...	...	...	...	...	1
Utica State Hospital (Oneida county)	...	3	5	6	...	...	...	...	1	...	...	...
Willard State Hospital (Seneca county)	...	4	3	20	2	...	...	...	4	...	...	...
Woman's Relief Corps Home, Oxford (Chenango county)	...	...	...	1	...	...	...	...	...	...	...	2

Digitized by Google

Note on Table 14 — Below are letters received from the State Hospital Commission and Fiscal Supervisor of State Charities, showing the inmate population only of the institutions under their respective jurisdiction as of July 1, 1914 and July 1, 1915:

ALBANY, *November* 6, 1915

HERMANN M. BIGGS, M.D., *State Commissioner of Health, Albany, N. Y.:*

DEAR SIR.— In response to your request of the 4th inst. I am submitting herewith a statement of the patient population of each of the civil State hospitals on July 1, 1914, and on July 1, 1915.

Patient Population of State Hospitals

Hospitals	July 1, 1914	July 1, 1915
Utica	1,495	1,608
Willard	2,389	2,413
Hudson River	3,127	3,353
Middletown	2,060	2,050
Buffalo	2,136	2,164
Binghamton	2,435	2,367
St. Lawrence	2,074	2,120
Rochester	1,542	1,577
Gowanda	1,183	1,191
Mohansic	59	65
Kings Park	4,219	4,314
Long Island	839	879
Manhattan	4,917	5,109
Central Islip	4,872	4,931
Total	33,347	34,141

Very truly yours,

E. S. ELWOOD,

Secretary

Digitized by Google

ALBANY, *November* 9, 1915

DR. CRESSY L. WILBUR, *Director, Division of Vital Statistics, State Department of Health, Albany, N. Y.:*

DEAR SIR.— Pursuant to your request of November 4, 1915, you will please find a statement of the population of inmates only in the State institutions reporting to this Department, on July 1, 1914, as well as July 1, 1915. You will please note that the statement gives the population of inmates only.

You will notice that Batavia has the yearly average population given in each case. This is due to the fact that the vacation period covers July 1st.

	July 1, 1914	July 1, 1915
Albion	242	246
Batavia	114	126
Bath	1,245	1,189
Bedford	490	410
Elmira	1,294	1,334
Hudson	317	330
Industry	705	770
Iroquois	102	196
Napanoch	449	477
Newark	802	846
Oxford	180	187
Randall's Island	636	861
Ray Brook	310	318
Rome	1,395	1,544
Sonyea	1,424	1,454
Syracuse	575	592
Thiells	98	123
West Haverstraw	69	86
Yorktown Heights	0	0

Yours respectfully,

W. A. MALLERY, JR.

Fiscal Supervisor

Digitized by Google

Table 15 — CITIES OF NEW YORK: *Deaths for important age periods and from important causes; also living births and still-births:* **1914**

CITIES IN ORDER OF POPULATION	Population estimated by U. S. Census Bureau as of July 1, 1914	Total deaths	Age in Years: Under 1	1 to 4	5 to 19	20 to 39	40 to 59	60 and over	Unknown
NEW YORK STATE	**9,899,761**	**145,476**	**23,731**	**9,351**	**7,737**	**22,606**	**33,114**	**48,890**	**47**
Rural	**2,316,725**	**35,345**	**4,128**	**1,178**	**1,447**	**3,983**	**6,311**	**18,258**	**40**
Cities	**7,583,036**	**110,131**	**19,603**	**8,173**	**6,290**	**18,623**	**26,803**	**30,632**	**7**
I CITIES OVER 175,000	6,032,728	85,351	15,379	6,828	5,046	14,993	21,347	21,758	.....
New York	5,333,539	74,803	13,295	6,236	4,458	13,337	18,882	18,595	.....
Manhattan	2,536,716	36,033	6,781	3,211	1,935	6,618	9,354	8,134	.....
The Bronx	529,198	7,221	1,139	564	491	1,407	1,805	1,815	.....
Brooklyn	1,833,696	25,009	4,279	1,985	1,617	4,199	6,171	6,758	.....
Queens	339,886	5,000	877	383	339	866	1,188	1,347	.....
Richmond	94,043	1,540	219	93	76	247	364	541	.....
Buffalo	454,112	7,037	1,524	416	405	1,157	1,642	1,893	.....
Rochester	245,077	3,511	560	176	183	499	823	1,270	.....
II CITIES, 50,000–175,000	648,011	10,501	1,774	620	509	1,634	2,429	3,532	3
Syracuse	149,353	2,221	419	117	99	316	483	787	.....
Albany	102,961	1,993	267	68	82	327	510	739	.....
Yonkers	93,383	1,094	222	117	70	193	247	245	.....
Schenectady	90,503	1,040	229	74	62	174	211	289	1
Utica	82,060	1,547	288	113	68	226	310	541	1
Troy	77,560	1,589	184	78	80	252	427	568	.....
Binghamton	52,191	1,017	165	53	48	146	241	363	1
IIIa CITIES, 20,000–50,000	456,706	7,012	1,145	361	373	1,010	1,548	2,575	.....
Elmira	37,816	579	85	16	20	81	125	252	.....
Auburn	36,509	554	85	31	25	75	126	212	.....
Amsterdam	35,223	496	119	28	20	90	112	127	.....
Niagara Falls	35,127	546	169	37	40	83	97	120	.....
Mt. Vernon	35,047	390	69	24	15	41	80	161	.....
New Rochelle	34,893	357	57	20	27	55	86	112	.....
Jamestown	34,878	427	58	27	19	59	94	170	.....
Poughkeepsie	29,598	516	71	42	21	56	104	222	.....
Newburgh	29,023	515	57	21	29	90	131	187	.....
Watertown	28,874	458	59	18	32	58	97	194	.....
Kingston	26,493	488	41	23	33	74	122	195	.....
Cohoes	25,049	394	96	33	14	45	99	107	.....
Oswego	23,865	430	73	14	19	48	93	178	.....
Rome	22,693	531	58	16	45	120	115	177	.....
Gloversville	21,618	331	43	11	14	35	67	161	.....
IIIb CITIES, 10,000–20,000	404,523	6,591	1,197	340	324	888	1,355	2,483	4
Dunkirk	19,607	236	54	21	14	34	39	74	.....
Lockport	19,581	285	36	8	11	36	55	139	.....
White Plains, village	19,379	258	41	14	10	45	62	86	.....
Lackawanna	19,012	323	240	28	6	25	15	9	.....
Peekskill, village	17,327	255	43	25	16	27	45	99	.....
Ogdensburg	16,464	436	55	11	26	55	97	191	1
Glens Falls	16,362	290	37	11	11	38	75	118	.....
Olean	16,018	251	34	12	25	41	49	89	1
Middletown	15,650	388	28	15	13	57	98	177	.....
Ithaca	15,510	246	20	5	10	30	57	123	1
Watervliet	15,394	230	40	21	10	25	57	77	.....
Port Chester, village	15,095	194	36	26	12	25	42	53	.....
Corning	14,866	203	34	5	13	30	48	72	1
Hornell	14,341	220	18	8	10	37	52	95	.....
Geneva	13,303	235	40	13	19	35	51	77	.....
North Tonawanda	13,184	162	54	12	11	15	30	40	.....
Little Falls	13,077	240	69	12	10	36	37	76	.....

Digitized by Google

Table 15.—CITIES OF NEW YORK: *Deaths for important age periods, etc.*—(*Continued*)

CITIES IN ORDER OF POPULATION	Epidemic Diseases									
	Typhoid fever	Malaria	Smallpox	Measles	Scarlet fever	Whooping cough	Diphtheria and croup	Influenza	Erysipelas	Cerebrospinal meningitis
NEW YORK STATE	878	51	3	839	687	730	2,015	910	529	246
Rural	229	19	1	98	89	194	183	377	94	51
Cities	649	32	2	741	598	536	1,832	533	435	295
I Cities Over 175,000	433	23	....	584	503	360	1,587	367	356	730
New York	334	21	....	559	452	279	1,492	340	323	211
Manhattan	155	8	....	366	253	156	756	143	207	110
The Bronx	29	....	....	44	37	19	185	51	22	17
Brooklyn	122	11	....	123	119	81	453	121	74	64
Queens	24	....	....	22	40	18	87	19	14	17
Richmond	4	2	....	4	3	5	11	6	6	3
Buffalo	73	1	....	11	26	76	66	12	22	8
Rochester	26	1	....	14	25	5	29	15	11	11
II Cities, 50,000–175,000	84	4	1	71	50	67	122	60	31	35
Syracuse	15	....	....	4	13	21	16	7	4	2
Albany	17	2	....	3	8	6	13	15	5	7
Yonkers	4	1	1	16	4	6	27	4	3	10
Schenectady	9	....	....	3	14	15	14	3	3	4
Utica	6	....	....	24	4	5	24	6	5	7
Troy	26	....	....	6	4	10	19	15	6	4
Binghamton	7	1	....	15	3	4	9	10	5	1
IIIa Cities, 20,000–50,000	55	1	1	40	14	34	69	34	25	17
Elmira	5	....	....	1	....	1	6	5	2	2
Auburn	4	....	....	3	2	1	4	1	1	2
Amsterdam	5	....	....	....	3	....	5	2	5	3
Niagara Falls	5	....	1	1	1	6	13	3	1	1
Mt. Vernon	....	....	....	3	....	....	3	3	4	1
New Rochelle	....	....	....	2	1	2	4	1	3	2
Jamestown	3	....	....	2	....	2	4	1	....	....
Poughkeepsie	1	....	....	13	2	1	2	2	2	2
Newburgh	7	....	....	3	1	....	7	....	1	....
Watertown	3	....	....	....	....	1	7	2	....	....
Kingston	2	1	....	7	2	....	2	6	1	....
Cohoes	5	....	....	2	1	6	6	....	....	3
Oswego	6	....	....	2	....	12	....	4	....	....
Rome	5	....	....	1	....	1	2	4	4	1
Gloversville	4	....	....	....	1	1	4	....	1	....
IIIb Cities, 10,000–20,000	72	4	....	38	29	71	50	60	21	13
Dunkirk	8	....	....	4	2	9	4	2	1	....
Lockport	2	....	....	....	....	2	1	4	....	....
White Plains, village	3	....	....	....	....	4	2	1	....	....
Lackawanna	1	....	....	....	....	16	2	1	2	1
Peekskill, village	2	2	....	6	....	6	7	3	1	....
Ogdensburg	4	....	....	4	3	5	5	7	....	1
Glens Falls	5	....	....	....	....	1	....	2	....	1
Olean	1	....	....	2	....	3	1	1	1	1
Middletown	1	....	....	5	....	4	....	4	1	1
Ithaca	5	....	....	....	....	....	....	1	....	1
Watervliet	5	1	....	3	....	7	....	....	....	....
Port Chester, village	2	....	....	3	3	....	3	5	1	1
Corning	4	....	....	....	....	....	3	....	....	....
Hornell	1	....	....	2	1	2	....	1	1	1
Geneva	4	....	....	....	7	1	4	1	1	....
North Tonawanda	8	....	....	2	....	4	2	....	....	....
Little Falls	1	....	....	....	3	....	2	2	1	2

Digitized by Google

Table 15 — CITIES OF NEW YORK: *Deaths for important age periods, etc.*— (*Continued*)

CITIES IN ORDER OF POPULATION	Pulmonary tuberculosis	Other forms of tuberculosis	Cancer and other malignant tumors	Diabetes	Other general diseases	Diseases of the nervous system	Diseases of the circulatory system	Bronchopneumonia
NEW YORK STATE	4,586	1,973	8,906	1,943	4,597	11,250	26,125	6,720
Rural	2,659	335	2,226	489	1,017	4,938	6,916	919
Cities	11,927	1,638	6,680	1,454	3,580	6,312	19,209	5,801
I CITIES OVER 175,000	10,010	1,302	5,151	1,120	2,808	3,747	15,083	5,042
New York	9,138	1,151	4,462	980	2,386	2,833	13,396	4,529
Manhattan	4,757	594	2,143	452	1,353	1,358	5,403	2,413
The Bronx	965	96	522	95	207	320	1,392	325
Brooklyn	2,746	365	1,427	352	657	900	5,362	1,473
Queens	505	79	275	66	127	177	963	262
Richmond	165	17	95	15	42	78	276	56
Buffalo	649	99	432	90	324	594	1,034	346
Rochester	223	52	257	50	98	320	653	167
II CITIES, 50,000–175,000	925	159	646	150	312	966	1,795	363
Syracuse	164	37	130	38	67	233	387	64
Albany	248	34	159	33	59	170	368	40
Yonkers	106	23	64	9	40	87	151	37
Schenectady	59	13	35	10	38	93	162	42
Utica	111	24	77	28	50	138	261	71
Troy	171	14	134	25	28	135	282	79
Binghamton	66	14	47	7	30	110	184	30
IIIa CITIES, 20,000–50,000	533	94	476	88	207	806	1,135	175
Elmira	27	7	41	9	23	49	101	14
Auburn	39	6	37	8	13	69	109	6
Amsterdam	45	9	22	4	13	59	73	10
Niagara Falls	29	8	25	4	16	44	53	23
Mt. Vernon	18	9	29	6	9	39	57	11
New Rochelle	22	2	28	5	9	39	54	14
Jamestown	26	2	48	7	15	39	75	8
Poughkeepsie	24	9	30	11	23	74	93	15
Newburgh	57	7	37	7	12	69	69	6
Watertown	29	11	33	5	20	59	90	6
Kingston	46	12	45	4	13	71	82	9
Cohoes	35	3	24	7	6	36	44	19
Oswego	17	4	31	3	12	62	85	9
Rome	95	3	26	5	14	50	96	18
Gloversville	24	2	20	3	9	54	54	7
IIIb CITIES, 10,000–20,000	420	76	369	89	233	719	1,070	211
Dunkirk	12	3	8	.....	11	17	35	3
Lockport	22	1	19	3	11	31	69	4
White Plains, village	18	6	19	3	11	24	51	12
Lackawanna	5	.....	4	.....	33	8	19	38
Peekskill, village	17	2	14	4	4	31	39	8
Ogdensburg	34	6	17	5	12	64	85	17
Glens Falls	22	4	21	5	8	36	62	4
Olean	12	4	14	3	9	28	43	7
Middletown	37	6	26	9	16	55	78	10
Ithaca	17	3	19	5	11	33	44	2
Watervliet	26	1	17	2	8	18	36	11
Port Chester, village	13	5	11	1	4	13	22	15
Corning	8	3	7	5	3	19	26	.....
Hornell	15	2	18	8	9	23	43	8
Geneva	8	3	11	6	6	22	34	7
North Tonawanda	6	2	8	3	4	15	10	8
Little Falls	14	1	12	2	3	17	42	5

Digitized by Google

Table 15 — CITIES OF NEW YORK: *Deaths for important age periods, etc.— (Continued)*

CITIES IN ORDER OF POPULATION	Lobar pneumonia, etc.	Other diseases of the respiratory system	Diarrhea and Enteritis		Other diseases of the digestive system	Bright's disease and nephritis	Other diseases of the genitourinary system	The puerperal state
			Under 2 years	Over 2 years				
NEW YORK STATE	**8,790**	**2,860**	**6,287**	**1,102**	**7,074**	**10,296**	**2,549**	**1,341**
Rural	**1,801**	**871**	**979**	**386**	**1,747**	**2,621**	**566**	**268**
Cities	**6,989**	**1,989**	**5,308**	**716**	**5,327**	**7,675**	**1,983**	**1,073**
I CITIES OVER 175,000	5,643	1,458	4,131	503	3,841	5,910	1,452	811
New York	5,148	1,247	3,427	424	3,269	5,099	1,239	679
Manhattan	2,482	516	1,613	183	1,535	2,372	529	301
The Bronx	495	91	248	33	323	449	130	83
Brooklyn	1,755	553	1,221	164	1,102	1,712	457	209
Queens	332	69	284	34	247	363	98	68
Richmond	84	18	61	10	62	203	25	18
Buffalo	325	145	525	47	373	529	133	81
Rochester	170	66	179	32	199	282	78	51
II CITIES, 50,000–175,000	629	232	508	85	602	743	214	113
Syracuse	142	38	136	14	120	141	48	21
Albany	96	40	48	17	132	177	28	21
Yonkers	66	16	93	9	54	59	26	18
Schenectady	69	26	60	7	64	59	27	18
Utica	114	36	78	13	90	108	32	14
Troy	88	38	48	12	90	124	32	11
Binghamton	54	38	45	13	52	75	21	10
IIIa CITIES, 20,000–50,000	352	125	325	71	439	548	152	79
Elmira	28	9	15	6	39	76	13	9
Auburn	25	16	35	5	31	30	15	3
Amsterdam	23	13	31	3	31	28	8	4
Niagara Falls	24	2	65	3	30	41	11	4
Mt. Vernon	18	8	25	4	18	53	10	4
New Rochelle	23	8	15	2	24	35	5	2
Jamestown	20	10	11	3	31	25	8	5
Poughkeepsie	35	7	20	12	27	41	5	3
Newburgh	19	9	11	3	38	55	10	9
Watertown	27	7	13	4	30	21	12	7
Kingston	22	15	9	2	32	26	16	6
Cohoes	25	7	39	5	32	19	7	3
Oswego	22	4	21	2	22	28	8	5
Rome	25	4	10	16	31	43	6	9
Gloversville	16	6	5	1	23	27	18	6
IIIb CITIES, 10,000–20,000	344	153	323	49	398	438	148	65
Dunkirk	8	4	14	5	17	6	4	2
Lockport	13	10	4	4	17	8	5	2
White Plains, village	16	5	9	.....	10	16	4	3
Lackawanna	25	.....	86	1	6	2	3	.....
Peekskill, village	10	9	15	4	18	17	8	2
Ogdensburg	20	10	7	3	29	30	7	3
Glens Falls	8	8	4	1	22	11	7	2
Olean	15	10	8	2	23	9	5	3
Middletown	17	4	9	3	21	43	4	2
Ithaca	10	5	9	.....	13	30	7	2
Watervliet	24	3	15	2	3	11	7	4
Port Chester, village	13	8	12	2	8	11	6	.....
Corning	17	3	4	1	17	21	9	5
Hornell	3	5	3	.....	17	13	5	2
Geneva	11	3	9	1	19	15	9	3
North Tonawanda	4	8	18	1	15	7	3	1
Little Falls	17	7	23	2	10	18	2	1

Digitized by Google

Table 15 — CITIES OF NEW YORK: *Deaths for important age periods, etc.— (Continued)*

CITIES IN ORDER OF POPULATION	Congenital debility	Accidents	Suicides	Homicides	Ill-defined diseases	All other causes	Births	
							Total living births	Stillbirths
NEW YORK STATE	2,546	7,725	1,516	409	196	9,697	240,038	10,693
Rural	418	1,948	362	68	106	2,370	43,612	1,734
Cities	2,128	5,777	1,154	341	90	7,327	196,426	8,959
I CITIES OVER 175,000	1,755	4,401	924	284	43	5,491	159,768	7,416
New York	1,676	3,922	805	256	43	4,683	140,528	6,609
Manhattan	1,071	1,957	450	169	23	2,205	65,293	3,181
The Bronx	129	294	116	10	7	487	15,104	686
Brooklyn	356	1,285	156	59	11	1,519	48,241	2,231
Queens	98	261	69	15	1	366	8,937	413
Richmond	28	125	14	3	1	100	2,353	98
Buffalo	66	340	63	24	....	523	12,639	561
Rochester	13	139	56	4	....	285	6,601	246
II CITIES, 50,000–175,000	140	500	99	25	17	753	15,240	654
Syracuse	32	105	33	5	5	179	3,358	150
Albany	30	72	12	5	5	123	2,115	90
Yonkers	5	61	10	1	....	83	2,517	109
Schenectady	22	52	10	4	1	104	2,157	88
Utica	19	79	12	6	1	104	2,434	105
Troy	16	77	8	4	3	80	1,365	65
Binghamton	16	54	14	.....	2	80	1,294	47
IIIa CITIES, 20,000–50,000	104	394	75	14	15	515	11,084	453
Elmira	8	40	3	.....	1	39	801	51
Auburn	14	26	7	.....	1	41	750	26
Amsterdam	13	23	6	3	2	50	1,067	35
Niagara Falls	16	45	5	3	6	57	1,430	65
Mt. Vernon	4	20	5	1	....	28	906	45
New Rochelle	1	20	4	2	....	28	736	23
Jamestown	4	29	6	1	....	42	795	15
Poughkeepsie	3	27	3	1	....	28	801	24
Newburgh	7	32	6	.....	....	33	606	37
Watertown	4	26	8	.....	1	39	548	20
Kingston	3	27	7	.....	....	20	446	26
Cohoes	6	21	4	1	....	28	554	29
Oswego	8	23	1	1	3	35	561	19
Rome	5	28	7	1	1	20	628	23
Gloversville	8	7	3	.....	....	27	455	15
IIIb CITIES, 10,000–20,000	117	431	45	15	15	505	9,404	398
Dunkirk	3	24	2	.....	1	27	548	21
Lockport	6	25	2	1	1	18	348	13
White Plains, village	2	15	3	1	....	20	521	32
Lackawanna	16	16	.....	.....	1	37	685	23
Peekskill, village	2	7	.....	.....	....	17	306	12
Ogdensburg	10	16	1	.....	1	30	405	10
Glens Falls	3	19	2	.....	2	30	322	7
Olean	3	22	3	2	....	16	461	18
Middletown	2	17	4	.....	....	9	255	18
Ithaca	3	10	2	2	....	12	312	21
Watervliet	7	10	1	.....	....	12	268	10
Port Chester, village	3	18	1	.....	2	8	559	32
Corning	6	14	.....	2	....	26	280	19
Hornell	4	21	.....	.....	1	12	267	16
Geneva	7	17	1	.....	....	25	333	15
North Tonawanda	1	10	3	.....	2	17	418	11
Little Falls	5	22	.....	.....	1	25	416	11

Digitized by Google

Table 15 — CITIES OF NEW YORK: *Deaths for important age periods, etc.*— (*Continued*)

CITIES IN ORDER OF POPULATION	Population estimated by U. S. Census Bureau as of July 1, 1914	Total deaths	Age in Years: Under 1	1 to 4	5 to 19	20 to 39	40 to 59	60 and over	Unknown
IIIb CITIES, 10,000-20,000 —(*Continued*)									
Ossining, village	12,987	187	16	7	9	42	35	78	.....
Saratoga Springs, village	12,813	259	28	11	8	39	57	116	.....
Batavia, village	12,614	217	46	7	5	33	43	83	.....
Cortland	12,565	217	32	10	7	18	56	94	.....
Plattsburg	12,289	193	30	5	10	33	33	82	.....
Hudson	12,221	230	32	10	17	30	47	94	.....
Fulton	11,448	178	45	14	11	21	25	62	.....
Beacon	11,319	202	24	10	8	39	46	75	.....
Rensselaer	11,027	169	28	9	10	13	39	70	.....
Johnstown	10,582	133	15	4	6	6	31	71	.....
Oneonta	10,488	154	22	6	6	73	34	63	.....
IIIc CITIES UNDER 10,000	41,068	676	108	24	38	98	124	284	.....
Port Jervis	9,640	159	19	3	12	23	88	64	.....
Tonawanda	8,660	101	24	2	4	17	16	38	.....
Oneida	8,647	167	27	10	7	23	31	69	.....
Canandaigua	7,672	146	14	5	7	13	22	85	.....
Salamanca	6,449	103	24	4	8	22	17	28	.....

Table 15 — CITIES OF NEW YORK: *Deaths for important age periods, etc.*— (*Continued*)

CITIES IN ORDER OF POPULATION	Epidemic Diseases: Typhoid fever	Malaria	Smallpox	Measles	Scarlet fever	Whooping cough	Diphtheria and croup	Influenza	Erysipelas	Cerebrospinal meningitis
IIIb CITIES, 10,000-20,000—(*Continued*)										
Ossining, village	1	....	....	1	....	....	.....	1	1	....
Saratoga Springs, village	4	....	....	....	1	....	4	4	....	....
Batavia, village	.....	....	....	....	1	....	.....	6	2	....
Cortland	1	....	....	....	....	....	1	2	....	....
Plattsburg	1	....	....	1	....	....	1	1	1	....
Hudson	4	1	....	....	7	....	1	2	1	1
Fulton	.....	....	....	2	....	2	.....	2	1	1
Beacon	1	....	....	1	....	....	1	2	2	....
Rensselaer	.....	....	....	....	....	4	4	3	1	1
Johnstown	1	....	....	....	1	1	2	2	....	....
Oneonta	2	....	....	2	....	....	.....	....	2	....
IIIc CITIES UNDER 10,000	5	....	....	8	2	4	4	12	2	....
Port Jervis	1	....	....	4	....	....	1	6	....	....
Tonawanda	4	....	....	....	....	1	1	....	....	....
Oneida	.....	....	....	4	....	1	.....	....	....	....
Canandaigua	.....	....	....	....	2	2	1	3	1	....
Salamanca	.....	....	....	....	....	....	1	3	1	....

Digitized by Google

Table 15 — CITIES OF NEW YORK: *Deaths for important age periods, etc.*— (*Continued*)

CITIES IN ORDER OF POPULATION	Pulmonary tuberculosis	Other forms of tuberculosis	Cancer and other malignant tumors	Diabetes	Other general diseases	Diseases of the nervous system	Diseases of the circulatory system	Bronchopneumonia
IIIb CITIES, 10,000-20,000 — (*Continued*)								
Ossining, village	18	3	14	2	6	23	30	4
Saratoga Springs, village	15	1	16	4	4	38	51	7
Batavia, village	7	.....	12	3	7	24	26	6
Cortland	9	7	12	1	8	28	28	1
Plattsburg	11	3	7	1	5	22	34	3
Hudson	19	3	16	3	4	21	35	2
Fulton	8	2	6	2	9	15	21	6
Beacon	32	3	7	2	7	34	30	4
Rensselaer	8	1	13	1	7	19	27	6
Johnstown	5	.....	12	2	7	21	27	5
Oneonta	2	1	9	4	6	20	23	2
IIIc CITIES UNDER 10,000	39	7	38	7	20	74	126	10
Port Jervis	17	2	7	1	3	18	26	3
Tonawanda	6	2	7	1	4	12	23	2
Oneida	8	2	12	1	8	13	30	2
Canandaigua	2	.....	10	2	4	16	30	1
Salamanca	6	1	2	2	1	15	17	2

Table 15 — CITIES OF NEW YORK: *Deaths for important age periods, etc.*— (*Continued*)

CITIES IN ORDER OF POPULATION	Lobar pneumonia, etc.	Other diseases of the respiratory system	DIARRHEA AND ENTERITIS		Other diseases of the digestive system	Bright's disease and nephritis	Other diseases of the genitourinary system	The puerperal state
			Under 2 years	Over 2 years				
IIIb CITIES, 10,000-20,000 — (*Continued*)								
Ossining, village	15	1	4	1	11	16	5	2
Saratoga Springs, village	6	2	11	4	15	30	5	3
Batavia, village	11	5	6	.....	16	20	12	2
Cortland	15	4	10	3	11	20	5	3
Plattsburg	13	6	7	.....	19	11	4	4
Hudson	13	11	10	1	17	14	4	3
Fulton	16	5	14	1	9	6	6	6
Beacon	3	3	4	1	10	25	5	2
Rensselaer	18	5	1	3	11	8	1	.....
Johnstown	8	7	1	.....	5	11	1	1
Oneonta	5	2	6	3	9	9	5	2
IIIc CITIES UNDER 10,000	21	21	21	8	47	36	19	5
Port Jervis	4	2	5	2	10	15	2	1
Tonawanda	4	3	5	.....	2	1	2	.....
Oneida	8	8	6	1	16	3	9	.....
Canandaigua	3	4	1	4	12	12	5	3
Salamanca	2	4	4	1	7	5	1	1

Digitized by Google

Table 15 — CITIES OF NEW YORK: *Deaths for important age periods, etc.*— (*Concluded*)

CITIES IN ORDER OF POPULATION	Congenital debility	Accidents	Suicides	Homicides	Ill-defined diseases	All other causes	Births	
							Total living births	Stillbirths
IIIb CITIES, 10,000–20,000 — (*Concluded*)								
Ossining, village	3	15	1	1	1	7	175	8
Saratoga Springs, village	1	11	4	2	....	16	251	7
Batavia, village	5	22	1	.....	....	23	339	15
Cortland	4	14	5	.....	1	24	230	12
Plattsburg	1	10	3	1	1	22	244	10
Hudson	4	17	.....	1	....	15	280	13
Fulton	5	17	1	1	....	14	332	17
Beacon	2	13	.....	.....	....	8	243	5
Rensselaer	3	7	3	.....	....	14	152	4
Johnstown	2	3	1	.....	....	7	227	4
Oneonta	4	20	1	1	....	14	227	14
IIIc CITIES UNDER 10,000	12	51	11	3	....	63	930	38
Port Jervis	4	11	3	1	....	10	174	9
Tonawanda	2	6	2	.....	....	11	166	4
Oneida	4	12	1	.....	....	18	239	3
Canandaigua	1	9	3	1	....	14	165	15
Salamanca	1	13	2	1	....	10	186	7

Digitized by Google

Table 16 — STATE OF NEW YORK: *Deaths, by counties, for important age periods and from important causes; also living births and stillbirths:* **1914**

County number	STATE AND COUNTIES	Population estimated by U. S. Census Bureau as of July 1, 1914	Total deaths	Age in Years: Under 1	1 to 4	5 to 19	20 to 39	40 to 59	60 and over	Unknown
	NEW YORK STATE	**9,899,761**	**145,476**	**23,731**	**9,351**	**7,737**	**22,606**	**33,114**	**48,890**	.....
	New York City	**5,333,539**	**74,803**	**13,295**	**6,236**	**4,458**	**13,337**	**18,882**	**18,595**	.....
	Rest of State	**4,566,222**	**70,673**	**10,436**	**3,115**	**3,279**	**9,269**	**14,232**	**30,295**	**47**
1	Albany	177,115	3,133	490	155	119	448	747	1,174	.....
2	Allegany	41,375	568	49	15	18	36	95	354	1
3	Broome	82,926	1,583	228	75	80	212	340	646	2
4	Cattaraugus	66,038	943	131	33	56	112	159	450	2
5	Cayuga	67,477	1,050	122	41	40	115	210	522	.....
6	Chautauqua	112,290	1,459	197	70	75	174	229	714	.....
7	Chemung	54,916	890	121	27	24	110	188	418	2
8	Chenango	35,155	556	42	17	20	48	74	355	.....
9	Clinton	48,572	635	116	25	29	87	89	289	.....
10	Columbia	43,848	702	77	27	30	72	114	382	.....
11	Cortland	29,961	476	57	15	13	39	99	252	1
12	Delaware	45,220	676	75	24	27	53	133	363	1
13	Dutchess	90,213	1,803	199	74	63	242	398	827	.....
14	Erie	569,597	8,563	1,968	486	455	1,312	1,871	2,471	.....
15	Essex	34,629	529	78	17	26	82	98	228	.....
16	Franklin	46,938	765	139	54	43	167	137	224	1
17	Fulton	45,255	700	82	23	24	70	127	374	.....
18	Genesee	38,916	577	83	19	14	67	93	300	1
19	Greene	29,676	469	35	17	16	50	86	265	.....
20	Hamilton	4,130	45	6	.....	1	7	7	24	.....
21	Herkimer	58,617	1,053	185	47	61	125	175	457	3
22	Jefferson	81,932	1,154	153	49	56	115	192	588	1
24	Lewis	23,752	395	33	11	18	36	62	234	1
25	Livingston	38,455	651	63	24	43	107	119	295	.....
26	Madison	38,755	666	64	25	22	61	126	367	1
27	Monroe	311,064	4,489	718	207	224	658	981	1,701	.....
28	Montgomery	61,861	912	162	32	42	122	186	368	.....
29	Nassau	96,068	1,248	225	79	72	154	240	473	5
31	Niagara	99,313	1,397	302	73	82	170	253	517	.....
32	Oneida	163,259	3,038	481	166	149	436	584	1,221	1
33	Onondaga	213,749	3,216	555	143	144	431	651	1,291	1
34	Ontario	53,428	799	96	23	37	79	145	419	.....
35	Orange	121,174	1,944	222	70	103	284	427	838	.....
36	Orleans	32,783	457	57	15	19	49	79	238	.....
37	Oswego	71,998	1,255	196	48	54	114	201	642	.....
38	Otsego	46,484	817	62	13	25	78	135	502	2
39	Putnam	15,039	189	23	3	5	20	40	98	.....
41	Rensselaer	122,522	2,241	255	99	114	313	554	905	1
43	Rockland	50,526	640	75	24	45	83	146	266	1
44	St. Lawrence	88,972	1,526	242	46	78	157	276	726	1
45	Saratoga	62,269	1,011	154	46	42	111	188	466	4
46	Schenectady	105,868	1,276	267	80	79	215	257	377	1
47	Schoharie	22,579	353	24	4	9	19	45	252	.....
48	Schuyler	13,234	239	15	4	6	13	31	170	.....
49	Seneca	26,487	550	34	8	12	37	116	343	.....
50	Steuben	83,589	1,389	122	27	42	129	244	824	1
51	Suffolk	104,045	1,996	134	44	63	349	549	856	1
52	Sullivan	34,448	737	54	17	30	179	159	297	1
53	Tioga	24,634	402	29	10	17	35	58	253	.....
54	Tompkins	33,571	536	56	10	18	50	103	298	1
55	Ulster	93,195	1,318	130	55	71	174	291	596	1
56	Warren	33,194	546	64	20	29	65	122	246	.....
57	Washington	48,995	699	95	31	24	55	112	380	2
58	Wayne	50,825	691	92	22	21	54	121	380	1
59	Westchester	325,158	4,035	642	314	230	631	869	1,346	3
60	Wyoming	32,503	411	40	9	15	40	61	245	1
61	Yates	17,930	275	20	3	5	18	40	188	1

Digitized by Google

Table 16 — STATE OF NEW YORK: *Deaths, by counties, etc.* — (*Continued*)

County number	STATE AND COUNTIES	Epidemic Diseases									
		Typhoid fever	Malaria	Smallpox	Measles	Scarlet fever	Whooping cough	Diphtheria and croup	Influenza	Erysipelas	Cerebrospinal meningitis
	NEW YORK STATE	**878**	**51**	**3**	**839**	**687**	**730**	**2,015**	**910**	**529**	**346**
	New York City	**334**	**21**	....	**559**	**452**	**279**	**1,492**	**340**	**323**	**211**
	Rest of State	**544**	**30**	**3**	**280**	**235**	**451**	**523**	**570**	**206**	**135**
1	Albany	29	4	....	9	10	31	27	18	5	11
2	Allegany	7	....	....	....	....	1	....	11	1	1
3	Broome	10	1	....	19	5	6	12	20	8	2
4	Cattaraugus	4	....	....	4	2	7	3	13	4	1
5	Cayuga	9	....	....	4	2	1	6	6	4	2
6	Chautauqua	15	....	1	6	4	12	10	13	6	1
7	Chemung	6	....	....	2	....	1	6	7	2	2
8	Chenango	3	1	....	....	....	....	1	2	1	....
9	Clinton	3	....	....	1	1	3	4	8	1	1
10	Columbia	7	1	....	1	7	2	6	7	3	1
11	Cortland	3	....	....	....	2	2	2	7	1	....
12	Delaware	6	....	....	13	....	1	1	5	2	3
13	Dutchess	5	2	....	17	8	1	5	8	10	2
14	Erie	82	1	....	14	27	108	71	27	26	11
15	Essex	3	....	....	....	....	....	6	6	....	....
16	Franklin	5	....	....	....	4	17	2	9	1	....
17	Fulton	6	....	....	....	2	2	6	7	1	....
18	Genesee	3	....	....	1	3	1	....	14	3	....
19	Greene	4	....	....	....	....	4	5	3	....	....
20	Hamilton	1	....	....	....	....	....	....	....	....	....
21	Herkimer	6	....	....	11	15	8	11	6	5	5
22	Jefferson	6	....	....	1	....	10	9	14	1	4
24	Lewis	6	1	....	1	....	2	2	8	1	1
25	Livingston	16	....	....	2	3	1	3	5	1	....
26	Madison	7	....	....	6	....	3	1	7	1	3
27	Monroe	29	1	....	15	29	9	33	23	15	12
28	Montgomery	9	....	....	....	3	1	7	4	6	3
29	Nassau	2	2	....	6	2	11	14	6	....	2
31	Niagara	16	1	1	3	2	13	19	11	1	1
32	Oneida	11	1	....	34	6	14	34	18	11	9
33	Onondaga	21	....	....	5	14	30	23	17	8	2
34	Ontario	5	....	....	....	9	3	6	16	3	....
35	Orange	20	....	....	14	3	12	15	22	5	2
36	Orleans	3	....	....	1	1	....	4	1	4	....
37	Oswego	11	....	....	4	....	17	....	17	3	1
38	Otsego	5	....	....	5	2	....	1	9	4	1
39	Putnam	....	2	....	....	....	3	1	3	1	1
41	Rensselaer	32	....	....	7	5	20	28	24	8	6
43	Rockland	6	....	....	1	....	3	7	8	1	3
44	St. Lawrence	15	....	....	5	7	13	6	14	3	3
45	Saratoga	11	1	....	2	13	5	9	9	....	1
46	Schenectady	10	....	....	3	15	21	17	6	3	4
47	Schoharie	2	1	....	....	1	....	....	4	1	1
48	Schuyler	....	1	....	1	....	....	....	1	....	....
49	Seneca	5	....	....	....	....	3	2	7	2	2
50	Steuben	13	....	....	4	1	5	7	4	5	1
51	Suffolk	3	1	....	1	3	3	9	20	10	2
52	Sullivan	5	1	....	3	1	....	2	2	....	1
53	Tioga	5	....	....	....	1	....	1	4	....	1
54	Tompkins	6	....	....	....	....	....	1	2	1	1
55	Ulster	14	2	....	10	7	....	9	14	3	1
56	Warren	8	1	....	....	....	2	1	3	....	1
57	Washington	4	....	....	....	....	3	4	17	1	1
58	Wayne	5	....	....	1	....	3	6	8	2	3
59	Westchester	16	4	1	43	14	32	57	26	16	17
60	Wyoming	....	....	....	....	1	....	1	8	1	1
61	Yates	....	....	....	....	....	1	....	11	....	....

Digitized by Google

Table 16 — STATE OF NEW YORK: *Deaths, by counties, etc.* — (*Continued*)

County number	STATE AND COUNTIES	Pulmonary tuberculosis	Other forms of tuberculosis	Cancer and other malignant tumors	Diabetes	Other general diseases	Diseases of the nervous system	Diseases of the circulatory system	Bronchopneumonia
	NEW YORK STATE	**14,586**	**1,973**	**8,906**	**1,943**	**4,597**	**11,250**	**26,125**	**6,720**
	New York City	**9,138**	**1,151**	**4,462**	**980**	**2,386**	**2,833**	**13,396**	**4,529**
	Rest of State	**5,448**	**822**	**4,444**	**963**	**2,211**	**8,417**	**12,729**	**2,191**
1	Albany	338	44	227	49	84	294	539	93
2	Allegany	11	4	43	11	21	84	131	10
3	Broome	85	20	80	14	51	191	280	41
4	Cattaraugus	49	9	68	20	33	112	182	17
5	Cayuga	56	12	75	17	23	148	230	16
6	Chautauqua	74	11	117	17	47	170	285	23
7	Chemung	55	10	64	9	27	88	166	23
8	Chenango	23	4	25	11	21	94	115	12
9	Clinton	41	9	22	8	19	74	121	16
10	Columbia	48	7	38	8	18	81	125	14
11	Cortland	20	8	30	5	17	66	87	7
12	Delaware	26	4	62	8	29	111	134	16
13	Dutchess	178	34	92	25	60	281	359	78
14	Erie	724	106	507	98	403	742	302	433
15	Essex	59	8	38	2	15	66	90	9
16	Franklin	169	13	42	12	10	63	97	17
17	Fulton	46	5	46	9	20	104	131	17
18	Genesee	25	3	45	10	10	77	97	15
19	Greene	37	3	26	10	9	84	100	9
20	Hamilton	6	.....	2	1	1	5	6	1
21	Herkimer	78	8	58	11	19	110	191	32
22	Jefferson	60	17	71	19	40	145	234	17
24	Lewis	22	3	21	7	18	54	65	6
25	Livingston	40	9	31	9	19	116	133	29
26	Madison	28	5	47	14	39	75	154	7
27	Monroe	384	61	307	59	121	423	808	188
28	Montgomery	66	12	49	12	21	140	155	19
29	Nassau	72	18	77	15	39	138	206	41
31	Niagara	82	11	84	19	50	138	214	42
32	Oneida	253	36	174	47	94	295	547	123
33	Onondaga	243	42	193	50	88	344	607	90
34	Ontario	33	7	66	14	17	103	157	11
35	Orange	198	23	116	27	54	256	314	37
36	Orleans	15	5	30	12	16	64	96	7
37	Oswego	51	14	76	19	46	166	250	24
38	Otsego	20	5	48	16	30	110	183	12
39	Putnam	16	1	12	5	3	27	37	1
41	Rensselaer	222	20	172	35	42	230	399	99
43	Richmond	59	9	51	12	25	89	97	22
44	St. Lawrence	94	15	68	25	63	189	294	39
45	Saratoga	71	7	55	10	25	142	183	32
46	Schenectady	94	15	47	11	43	118	205	49
47	Schoharie	11	1	31	5	12	67	73	8
48	Schuyler	2	4	21	9	8	33	64	1
49	Seneca	44	4	33	5	11	94	116	33
50	Steuben	50	9	95	21	30	185	350	25
51	Suffolk	178	19	95	21	59	422	349	101
52	Sullivan	208	7	26	10	8	95	122	7
53	Tioga	11	3	28	2	13	82	72	6
54	Tompkins	26	6	41	7	29	82	101	4
55	Ulster	144	16	92	8	29	198	230	26
56	Warren	40	5	40	9	16	62	113	9
57	Washington	35	7	36	6	16	105	133	16
58	Wayne	29	6	59	14	13	103	137	18
59	Westchester	374	69	287	50	115	358	611	133
60	Wyoming	15	6	37	3	15	65	86	7
61	Yates	10	3	21	1	7	50	66	3

Digitized by Google

Table 16 — STATE OF NEW YORK: *Deaths, by counties, etc.* — (*Continued*)

County number	STATE AND COUNTIES	Lobar pneumonia, etc.	Other diseases of the respiratory system	Diarrhea and Enteritis		Other diseases of the digestive system	Bright's disease and nephritis	Other diseases of the genito-urinary system	The puerperal state
				Under 2 years	Over 2 years				
	NEW YORK STATE	**8,790**	**2,860**	**6,287**	**1,102**	**7,074**	**10,296**	**2,549**	**1,341**
	New York City	**5,148**	**1,247**	**3,427**	**424**	**3,269**	**5,099**	**1,239**	**679**
	Rest of State	**3,642**	**1,613**	**2,860**	**678**	**3,805**	**5,197**	**1,310**	**662**
1	Albany	165	62	133	27	188	253	49	34
2	Allegany	25	10	9	9	38	52	19	5
3	Broome	84	48	64	21	92	123	33	18
4	Cattaraugus	47	27	22	8	68	49	13	7
5	Cayuga	45	32	43	13	48	66	19	6
6	Chautauqua	55	35	35	18	95	85	29	13
7	Chemung	48	12	24	11	55	108	18	10
8	Chenango	39	15	5	5	33	51	14	6
9	Clinton	39	15	29	4	41	40	7	12
10	Columbia	36	17	18	10	36	67	12	7
11	Cortland	24	13	14	3	28	38	9	4
12	Delaware	24	17	12	9	37	46	7	6
13	Dutchess	85	28	45	25	88	117	27	14
14	Erie	401	173	678	61	433	597	152	90
15	Essex	18	11	11	9	29	33	10	7
16	Franklin	43	20	37	10	20	35	9	11
17	Fulton	41	17	13	4	38	66	20	10
18	Genesee	29	16	9	1	39	41	22	5
19	Greene	24	10	10	4	17	38	7	4
20	Hamilton	1	.....	.....	.....	1	6	1	.....
21	Herkimer	58	30	41	8	44	72	10	4
22	Jefferson	68	31	36	13	64	64	23	12
24	Lewis	15	10	8	3	31	35	6	5
25	Livingston	32	14	15	12	30	31	8	6
26	Madison	33	26	10	2	48	34	15	5
27	Monroe	210	87	249	42	232	324	88	56
28	Montgomery	38	21	38	4	48	65	15	5
29	Nassau	76	24	65	17	68	97	20	9
31	Niagara	63	38	93	12	90	80	21	7
32	Oneida	209	64	118	39	179	226	52	28
33	Onondaga	196	72	169	23	159	204	65	24
34	Ontario	28	19	18	8	56	61	24	7
35	Orange	91	40	50	16	110	197	21	20
36	Orleans	18	11	18	3	27	30	4	9
37	Oswego	78	34	48	9	75	73	22	16
38	Otsego	41	13	12	7	57	71	16	8
39	Putnam	8	7	7	2	6	14	3	.....
41	Rensselaer	130	53	60	20	122	181	42	14
43	Rockland	36	18	17	4	34	38	9	4
44	St. Lawrence	93	41	54	12	77	75	26	16
45	Saratoga	56	23	39	14	30	94	12	9
46	Schenectady	85	30	67	8	70	68	29	20
47	Schoharie	17	5	2	3	16	35	10	2
48	Schuyler	9	6	1	3	16	11	6	4
49	Seneca	30	10	4	10	21	39	10	3
50	Steuben	58	25	18	11	89	123	36	11
51	Suffolk	98	36	31	23	72	203	30	11
52	Sullivan	34	20	10	7	47	28	9	5
53	Tioga	31	7	4	4	23	36	6	2
54	Tompkins	24	14	15	4	25	52	17	3
55	Ulster	58	36	28	12	79	85	39	13
56	Warren	24	16	10	6	40	25	8	6
57	Washington	32	16	31	13	26	82	7	4
58	Wayne	20	25	24	8	36	46	19	4
59	Westchester	241	94	226	38	193	332	77	35
60	Wyoming	21	11	8	3	25	23	18	6
61	Yates	10	8	5	3	16	22	10	.....

Digitized by Google

Table 16 — STATE OF NEW YORK: *Deaths, by counties, etc.* — (*Concluded*)

County number	STATE AND COUNTIES	Congenital debility	Accidents	Suicides	Homicides	Ill-defined diseases	All other causes	Births: Total living births	Births: Stillbirths
	NEW YORK STATE	**2,552**	**7,725**	**1,516**	**409**	**196**	**9,691**	**240,038**	**10,693**
	New York City	**1,682**	**3,922**	**805**	**256**	**43**	**4,677**	**140,528**	**6,609**
	Rest of State	**870**	**3,803**	**711**	**153**	**153**	**5,014**	**99,510**	**4,084**
1	Albany	50	132	22	8	7	191	3,520	152
2	Allegany	5	24	1	1	6	28	712	31
3	Broome	24	78	21	2	2	128	1,995	86
4	Cattaraugus	11	74	14	4	1	70	1,422	53
5	Cayuga	18	59	17	1	1	71	1,206	48
6	Chautauqua	18	106	16	3	7	132	2,419	71
7	Chemung	9	57	7	.....	2	61	1,123	62
8	Chenango	4	31	7	.....	1	32	627	20
9	Clinton	7	27	4	1	9	68	1,067	35
10	Columbia	8	53	3	1	2	58	788	27
11	Cortland	10	23	8	.....	2	43	536	23
12	Delaware	10	33	5	.....	2	47	798	35
13	Dutchess	21	80	10	2	....	96	1,924	69
14	Erie	95	440	73	29	6	653	15,407	652
15	Essex	13	33	2	2	2	47	680	22
16	Franklin	18	30	7	.....	3	61	992	43
17	Fulton	11	19	5	.....	1	53	898	26
18	Genesee	9	41	3	.....	1	54	868	27
19	Greene	5	29	7	1	....	19	500	18
20	Hamilton	.....	3	1	.....	4	5	75	3
21	Herkimer	23	88	14	4	3	71	1,470	52
22	Jefferson	17	65	19	.....	2	92	1,484	53
24	Lewis	4	26	5	.....	....	29	465	18
25	Livingston	7	38	7	1	....	33	731	20
26	Madison	5	36	5	.....	1	49	781	17
27	Monroe	23	208	69	4	....	370	7,854	291
28	Montgomery	18	62	10	4	3	74	1,501	52
29	Nassau	25	83	10	8	4	9	2,352	111
31	Niagara	27	103	16	6	10	123	2,832	108
32	Oneida	36	145	29	8	6	192	4,179	167
33	Onondaga	52	174	48	9	7	237	4,553	207
34	Ontario	10	35	8	2	1	72	1,054	45
35	Orange	25	127	22	2	1	104	2,208	122
36	Orleans	9	34	4	.....	1	30	710	34
37	Oswego	21	73	4	2	6	95	1,565	69
38	Otsego	8	56	9	3	2	63	798	32
39	Putnam	4	8	2	1	....	14	255	5
41	Rensselaer	22	109	16	7	3	113	2,009	90
43	Rockland	2	37	5	5	....	38	838	39
44	St. Lawrence	31	75	14	.....	9	150	1,836	84
45	Saratoga	12	51	9	4	4	78	1,237	52
46	Schenectady	23	76	11	5	2	121	2,485	98
47	Schoharie	2	15	.....	1	1	26	340	13
48	Schuyler	2	10	2	.....	1	23	242	17
49	Seneca	2	23	8	.....	....	29	457	17
50	Steuben	18	35	8	2	2	98	1,450	67
51	Suffolk	21	79	21	2	3	70	1,990	82
52	Sullivan	2	23	6	1	3	44	564	23
53	Tioga	.....	29	6	1	....	24	398	16
54	Tompkins	4	27	5	2	....	37	649	33
55	Ulster	13	68	14	1	4	65	1,571	74
56	Warren	4	34	4	.....	2	57	606	23
57	Washington	9	37	9	.....	2	47	851	34
58	Wayne	8	38	11	.....	1	44	1,088	31
59	Westchester	28	226	41	12	10	259	7,643	353
60	Wyoming	4	19	3	1	....	23	616	21
61	Yates	3	9	4	.....	....	12	291	11

Digitized by Google

Table 17 — STATE OF NEW YORK: *Births, marriages, and deaths, by counties, cities, villages, and towns:* **1914**

COUNTY AND SUBDIVISIONS (ALPHABETIC ORDER)	Births, 1914*	Deaths, 1914*	Marriages, 1914
Albany County	**3,520**	**3,133**	**1,555**
Albany, city	2,115	1,993	1,041
Altamont, village	7	8	.....
Berne, town	24	33	11
Bethlehem, town†	66	54	10
Coeymans, town	110	42	35
Cohoes, city†	554	394	135
Colonie, town	151	145	61
Green Island, town‡	....	.....	31
Green Island, village	92	73	.....
Guilderland, town	34	46	25
Knox, town	10	20	6
New Scotland, town	34	36	23
Ravena, village	2	2	.....
Rensselaerville, town	24	26	13
Voorheesville, village	8	8	.....
Watervliet, city	268	230	152
Westerlo, town	21	23	12
Allegany County	**712**	**568**	**313**
Alfred, town	13	13	8
Alfred, village	9	16	.....
Allen, town	10	4	3
Alma, town	13	10	5
Almond, town	29	17	9
Amity, town	15	12	24
Andover, town	16	7	15
Andover, village	22	25	.....
Angelica, town	4	24	12
Angelica, village	19	21	.....
Belfast, town	20	22	10
Belmont, village	16	23	.....
Birdsall, town	5	7	3
Bolivar, town	23	9	33
Bolivar, village	17	15	.....
Burns, town	14	6	7
Canaseraga, village	10	10	.....
Caneadea, town	18	13	9
Centerville, town	24	11	6
Clarksville, town	23	18	6
Cuba, town	24	11	23
Cuba, village	18	15	.....
Friendship, town	18	10	12
Friendship, village	10	17	.....
Genesee, town	18	7	10
Granger, town	10	9	3
Grove, town	14	12	6
Hume, town	31	24	10
Independence, town	24	17	9
New Hudson, town	16	8	5
Richburg, village	5	7	.....
Rushford, town	28	14	6
Scio, town	21	20	5
Ward, town	10	7	2
Wellsville, town	23	10	51
Wellsville, village	73	77	.....
West Almond, town	8	6	2
Willing, town	25	8	8
Wirt, town	16	6	11
Broome County	**1,995**	**1,583**	**1,179**
Barker, town	23	13	8
Binghamton, town	9	7	1
Binghamton, city	1,294	1,017	857
Chenango, town	23	12	7
Colesville, town	34	37	22
Conklin, town	17	15	6
Conklin, town	17	15	6
Deposit, village§	16	36	.....
Deposit, village	*26*	*40*	.....
Dickinson, town	14	52	6
Endicott, village	133	52	.....
Fenton, town	23	16	7
Kirkwood, town	13	12	3
Lestershire, village	127	93	.....
Lisle, town	22	19	7
Lisle, village	6	8	.....
Maine, town	22	17	9
Nanticoke, town	10	6	1
Port Dickinson, village	8	7	.....
Sanford, town	40	29	26
Triangle, town	11	11	11
Union, town	40	24	186
Union, village	37	25	.....
Vestal, town	18	22	9
Whitneys Point, village	11	13	.....
Windsor, town	35	28	13
Windsor, village	9	12	.....
Cattaraugus County	**1,422**	**943**	**734**
Allegany, town	37	20	35
Allegany, village	29	13	.....
Ashford, town	26	18	14
Carrollton, town	4	8	63
Cattaraugus, village	16	22	.....
Cold Spring, town	19	11	4
Conewango, town	21	13	11
Dayton, town	26	24	19
East Otto, town	23	19	5
East Randolph, village	9	13	.....
Elko, town	13	4	.....
Ellicottville, town	11	7	18
Ellicottville, village	16	14	.....
Farmersville, town	18	15	4
Franklinville, town	24	11	27
Franklinville, village	45	32	.....
Freedom, town	16	18	6
Gowanda, village¶	39	28	.....
Gowanda, village	*53*	*32*	.....
Great Valley, town	26	12	7
Hinsdale, town	18	15	4
Humphrey, town	11	6	1
Ischua, town	19	6	7
Leon, town	24	13	4
Limestone, village	5	6	.....
Little Valley, town	14	6	23
Little Valley, village	15	27	.....
Lyndon, town	7	9	2
Machias, town	34	38	14
Mansfield, town	15	9	4

* Stillbirths excluded.

† Bethlehem and Cohoes still to report additional marriages.

‡ Town and village have same boundaries.

§ Deposit, village located in two counties — Broome and Delaware. Deaths and births shown are for that part of the village located in Broome county. Total for entire village in italics.

¶ Gowanda village located in two counties, Cattaraugus and Erie. Deaths and births shown are for that part of village in Cattaraugus county. Total for entire village in italics.

Digitized by Google

Table 17 — *Births, etc., by counties, etc.:* **1914** — (*Continued*)

COUNTY AND SUBDIVISIONS (ALPHABETIC ORDER)	Births, 1914*	Deaths, 1914*	Marriages, 1914
Cattaraugus County — (*Continued*)			
Napoli, town	11	14	4
New Albion, town	15	7	14
Olean, town	19	11	1
Olean, city	461	251	207
Otto, town	13	13	20
Perrysburg, town	14	13	8
Persia, town	12	3	31
Portville, town	25	17	26
Portville, village	9	4	.....
Randolph, town	11	12	24
Randolph, village	19	17	.....
Red House, town	9	14	6
Salamanca, town	5	0	.....
Salamanca, city	186	103	103
South Valley, town	8	6	4
Yorkshire, town	25	21	14
Cayuga County	**1,206**	**1,050**	**533**
Auburn, city	750	554	365
Aurelius, town	11	13	6
Aurora, village	4	3	.....
Brutus, town	31	15	24
Cato, town	25	14	3
Cato, village	4	2	.....
Cayuga, village	3	6	.....
Conquest, town	20	17	4
Fair Haven, village	10	7	.....
Fleming, town	15	17	5
Genoa, town	21	27	11
Ira, town	17	27	6
Ledyard, town	18	9	10
Locke, town	14	10	5
Ments, town	13	12	18
Meridian, village	2	5	.....
Montezuma, town	10	9	2
Moravia, town	7	14	5
Moravia, village	8	27	.....
Niles, town	16	17	4
Owasco, town	9	23	7
Port Byron, village	17	17	.....
Scipio, town	16	15	3
Sempronius, town	14	13	5
Sennett, town	24	47	11
Springport, town	13	11	9
Sterling, town	25	24	13
Summer Hill, town	17	6	.....
Throop, town	15	11	4
Union Springs, village	7	14	.....
Venice, town	14	19	5
Victory, town	23	20	8
Weedsport, village	13	25	.....
Chautauqua County	**2,419**	**1,459**	**1,366**
Arkwright, town	13	8	4
Bemus Point, village	5	4	.....
Brocton, village	25	17	.....
Busti, town	26	26	18
Carroll, town	32	19	.....
Celoron, village	15	5	.....
Charlotte, town	12	3	6
Chautauqua, town	27	58	94
Chautauqua County — (*Contiued*)			
Chautauqua Lake Association, village	7	12	.....
Cherry Creek, town	17	11	15
Cherry Creek, village	9	10	.....
Clymer, town	31	14	19
Dunkirk, town	1	3	1
Dunkirk, city	548	236	119
Ellery, town	28	18	7
Ellicott, town	25	25	51
Ellington, town	12	20	6
Falconer, village	46	37	.....
Forestville, village	8	6	.....
Fredonia, village	113	73	.....
French Creek, town	16	13	10
Gerry, town	24	21	3
Hanover, town	53	24	62
Harmony, town	47	34	17
Jamestown, city	795	427	579
Kiantone, town	11	2	2
Lakewood, village	6	20	.....
Mayville, village	12	14	.....
Mina, town	14	13	13
Panama, village	3	8	.....
Poland, town	16	23	6
Pomfret, town	32	27	51
Portland, town	36	23	34
Ripley, town	41	34	121
Sheridan, town	31	11	11
Sherman, town	11	14	17
Sherman, village	12	8	.....
Silver Creek, village	89	33	.....
Sinclairville, village	10	12	.....
Stockton, town	39	27	14
Villenova, town	16	12	8
Westfield, town	26	27	78
Westfield, village	79	27	.....
Chemung County	**1,123**	**890**	**765**
Ashland, town	5	4	1
Baldwin, town	10	5	2
Big Flats, town	25	24	13
Catlin, town	18	9	2
Chemung, town	27	23	13
Elmira, town	23	25	9
Elmira, city	801	579	605
†Elmira Heights, village	70	44	.....
Erin, town	18	12	6
Horseheads, town	24	55	79
Horseheads, village	27	27	.....
Southport, town	35	30	24
Van Etten, town	10	12	7
Van Etten, village	5	4	.....
Veteran, town	20	26	4
Wellsburg, village	5	11	.....
Chenango County	**627**	**556**	**295**
Afton, town	24	18	15
Afton, village	5	11	.....
Bainbridge, town	14	6	12
Bainbridge, village	18	19	.....
Columbus, town	16	6	4
Coventry, town	10	8	7

*Stillbirths excluded.
† Part of village in town of Horseheads.

Digitized by Google

Table 17 — *Births, etc., by counties, etc.:* 1914 —(*Continued*)

COUNTY AND SUB-DIVISIONS (ALPHABETIC ORDER)	Births, 1914*	Deaths, 1914*	Marriages, 1914
Chenango County — (*Continued*)			
Earlville, village†	2	0	.....
Earlville, village	*9*	*9*	.....
German, town	13	4	6
Greene, town	34	23	17
Greene, village	19	20	.....
Guilford, town	27	22	17
Lincklaen, town	12	13	7
McDonough, town	17	7	6
New Berlin, town	22	15	21
New Berlin, village	13	20	.....
North Norwich, town	12	3	5
Norwich, town	16	16	98
Norwich, village	146	140	.....
Otselic, town	21	18	5
Oxford, town	20	43	24
Oxford, village	30	23	.....
Pharsalia, town	20	9	3
Pitcher, town	4	15	1
Plymouth, town	10	16	4
Preston, town	5	19	.....
Sherburne, town	41	13	30
Sherburne, village	17	19	.....
Smithville, town	21	15	6
Smyrna, town	15	14	7
Smyrna, village	3	1	.....
Clinton County	**1,067**	**635**	**425**
Altona, town	51	24	11
Ausable, town	19	13	12
Beekmantown, town	23	27	11
Black Brook, town	40	20	13
Champlain, town	46	17	44
Champlain, village	25	27	.....
Chazy, town	79	48	23
Clinton, town	36	22	7
Dannemora, town	75	21	23
Dannemora, village	28	33	.....
Ellenburg, town	86	27	28
Keeseville, village.‡	17	6	.....
Keeseville, village	*28*	*24*	.....
Mooers, town	60	31	35
Mooers, village	8	8	.....
Peru, town	52	29	21
Plattsburg, town	45	25	22
Plattsburg, city	244	193	134
Rouses Point, village	20	18	.....
Saranac, town	83	30	29
Schuyler Falls, town	30	16	12
Columbia County	**788**	**702**	**313**
Ancram, town	21	15	8
Austerlits, town	11	10	4
Canaan, town	14	21	15
Chatham, town	34	34	37
Chatham, village	41	28	.....
Claverack, town	26	35	32
Clermont, town	11	8	5
Copake, town	21	14	6
Gallatin, town	7	9	3
Germantown, town	25	19	7
Ghent, town	25	43	9
Greenport, town	40	25	2
Columbia County — (*Continued*)			
Hillsdale, town	10	20	8
Hudson, city	280	230	113
Kinderhook, town	13	12	21
Kinderhook, village	16	7	.....
Livingston, town	28	21	4
New Lebanon, town	28	20	11
Philmont, village	25	24	.....
Stockport, town	29	29	12
Stuyvesant, town	41	30	10
Taghkanic, town	13	19	6
Valatie, village	29	29	.....
Cortland County	**536**	**476**	**274**
Cincinnatus, town	16	13	5
Cortland, city	230	217	160
Cortlandville, town	43	40	22
Cuyler, town	16	13	7
Freetown, town	3	8	2
Harford, town	7	8	2
Homer, town	31	17	25
Homer, village	36	37	.....
Lapeer, town	5	5	3
McGrawville, village	14	15	.....
Marathon, town	6	4	12
Marathon, village	13	17	.....
Preble, town	10	12	6
Scott, town	11	12	6
Solon, town	14	9	2
Taylor, town	22	10	3
Truxton, town	28	14	12
Virgil, town	18	12	4
Willet, town	13	13	3
Delaware County	**798**	**676**	**376**
Andes, town	32	18	12
Andes, village	4	12	.....
Bovina, town	9	11	5
Colchester, town	74	46	36
Davenport, town	17	23	10
Delhi, town	17	18	24
Delhi, village	28	26	.....
Deposit, town	18	13	17
Deposit, village§	10	4	.....
Fleischmanns, village	7	8	.....
Franklin, town	33	30	8
Franklin, village	3	6	.....
Hamden, town	26	25	13
Hancock, town	45	44	50
Hancock, village	19	21	.....
Harpersfield, town	20	16	7
Hobart, village	17	11	.....
Kortright, town	30	22	11
Margaretville, village	11	17	.....
Masonville, town	25	15	7
Meredith, town	32	21	8
Middletown, town	57	33	30
Roxbury, town	37	40	10
Sidney, town	15	23	41
Sidney, village	43	44	.....
Stamford, town	19	11	18
Stamford, village	9	16	.....

* Stillbirths excluded.

† Earlville, village located in two counties, Chenango and Madison. Deaths and births shown are for that part of the village located in Chenango county. Total for entire village in italics.

‡ Keeseville, village located in two counties, Clinton and Essex. Deaths and births shown are for that part of the village located in Clinton county. Total for entire village in italics.

§ See Broome county for complete total.

Digitized by Google

Table 17 — *Births, etc., by counties, etc.:* 1914 —(*Continued*)

COUNTY AND SUB-DIVISIONS (ALPHABETIC ORDER)	Births, 1914*	Deaths, 1914*	Marriages, 1914
Delaware County — (*Continued*)			
Tompkins, town	46	22	12
Walton, town	42	29	57
Walton, village	53	51	.....
Dutchess County	**1,924**	**1,803**	**633**
Amenia, town	31	33	2
Beacon, city	243	202	86
Beekman, town	17	5	.....
Clinton, town	17	21	3
Dover, town	41	19	10
East Fishkill, town	59	34	7
Fishkill, town	51	35	14
Fishkill, village	4	8	.....
Hyde Park, town	40	36	14
LaGrange, town	15	17	6
Milan, town	14	15	7
Millbrook, village	36	12	.....
Millerton, village	17	12	.....
North East, town	26	14	34
Pawling, town	15	18	13
Pawling, village	16	19	.....
Pine Plains, town	26	14	13
Pleasant Valley, town	10	14	8
Pleasant Valley, village	4	8	.....
Poughkeepsie, town	116	457	.....
Poughkeepsie, city	801	516	296
Red Hook, town	35	17	19
Red Hook, village	13	12	.....
Rhinebeck, town	16	35	25
Rhinebeck, village	30	33	.....
Stanford, town	28	28	8
Tivoli, village	26	20	.....
Union Vale, town	22	13	6
Wappinger, town	34	20	46
Wappingers Falls, village	86	63	.....
Washington, town	35	53	16
Erie County	**15,407**	**8,563**	**5,754**
Akron, village	32	28	.....
Alden, town	32	13	15
Alden, village	12	11	.....
Amherst, town	76	38	43
Angola, village	44	18	.....
Aurora, town	48	16	43
Blasdell, village	22	11	.....
Boston, town	23	10	10
Brant, town	43	22	18
Buffalo, city	12,639	7,037	4,861
Cheektowaga, town	125	90	58
Clarence, town	64	35	18
Colden, town	24	12	7
Collins, town	34	85	32
Concord, town	42	25	37
Depew, village	246	68	.....
East Aurora, village	71	43	.....
East Hamburg, town	42	26	20
Eden, town	34	33	13
Elma, town	37	27	11
Evans, town	36	31	27
Farnham, village	36	4	.....
Gowanda, village†	*14*	*4*	.....
Erie County — (*Continued*)			
Grand Island, town	14	9	5
Hamburg, town	63	47	58
Hamburg, village	46	25	.....
Holland, town	35	15	10
Kenmore, village	25	6	.....
Lackawanna, city	685	323	146
Lancaster, town	46	26	115
Lancaster, village	110	61	.....
Marilla, town	15	18	6
Newstead, town	53	23	25
North Collins, town	36	13	13
North Collins, village	19	12	.....
Sardinia, town	34	24	.....
Sloan, village	36	6	.....
Springville, village	40	31	.....
Tonawanda, town	16	17	37
Tonawanda, city	166	101	90
Wales, town	25	14	5
West Seneca, town	143	91	31
Williamsville, village	24	14	.....
Essex County	**680**	**529**	**205**
Bloomingdale, village	5	4	.....
Chesterfield, town	28	19	7
Crown Point, town	29	31	18
Elizabethtown, town	12	9	7
Elizabethtown, village	14	8	.....
Essex, town	24	33	5
Jay, town	47	35	9
Keene, town	13	12	10
Keeseville, village‡	11	18	.....
Lake Placid, village	50	18	.....
Lewis, town	13	19	5
Minerva, town	11	8	3
Moriah, town	118	75	58
Newcomb, town	8	5	.....
North Elba, town	16	18	21
North Hudson, town	9	6	6
Port Henry, village	61	35	.....
St. Armond, town	5	6	3
Saranac Lake, village§	21	26	.....
Saranac Lake, village	*101*	*193*	.....
Schroon, town	17	21	5
Ticonderoga, town	65	44	37
Ticonderoga, village	37	22	.....
Westport, town	14	11	9
Westport, village	18	14	.....
Willsboro, town	17	23	.....
Wilmington, town	17	9	2
Franklin County	**992**	**765**	**407**
Altamont, town	67	30	36
Bangor, town	37	22	7
Belmont, town	49	20	14
Bombay, town	30	41	15
Brandon, town	26	12	11
Brighton, town	9	13	4
Burke, town	37	26	12
Chateaugay, town	34	16	24
Chateaugay, village	31	28	.....
Constable, town	29	21	5
Dickinson, town	46	16	15

* Stillbirths excluded.
† See Cattaraugus county for complete total.
‡ See Clinton county for complete total.
§ Saranac Lake, village, located in two counties, Essex and Franklin. Deaths and births shown are for that part of village located in Essex county. Total for entire village in italics.

Digitized by Google

Table 17 — *Births, etc., by counties, etc.:* **1914** —(*Continued*)

COUNTY AND SUBDIVISIONS (ALPHABETIC ORDER)	Births, 1914*	Deaths, 1914*	Marriages, 1914
Franklin County—(*Continued*)			
Duane, town	4	0	.....
Fort Covington, town	44	14	20
Fort Covington, village	15	14	.....
Franklin, town	24	14	11
Harrietstown, town	19	11	62
Malone, town	72	66	118
Malone, village	139	128	.....
Moira, town	46	24	22
Santa Clara, town	7	3	1
Saranac Lake, village†	80	167	.....
Tupper Lake, village	64	34	.....
Waverly, town	67	28	19
Westville, town	16	17	11
Fulton County	**898**	**700**	**392**
Bleecker, town	8	4	2
Broadalbin, town	36	35	22
Caroga, town	4	6	3
Dolgeville, village‡	3	0	.....
Dolgeville, village	*83*	*29*	.....
Ephratah, town	14	23	6
Gloversville, city	455	331	200
Johnstown, town	27	56	13
Johnstown, city	227	133	103
Mayfield, town	19	25	15
Mayfield, village	7	8	.....
Northampton, town	26	25	19
Northville, village	18	30	.....
Oppenheim, town	21	7	6
Perth, town	19	8	2
Stratford, town	14	9	1
Genesee County	**868**	**577**	**306**
Alabama, town	29	27	7
Alexander, town	26	11	7
Alexander, village	1	3	.....
Batavia, town	42	40	155
Batavia, village	339	217	.....
Bergen, town	20	14	7
Bergen, village	10	8	.....
Bethany, town	14	21	12
Byron, town	20	22	11
Corfu, village	3	12	.....
Darien, town	23	15	7
Elba, town	15	11	18
Elba, village	12	10	.....
LeRoy, town	37	17	40
LeRoy, village	102	52	.....
Oakfield, town	34	11	6
Oakfield, village	57	12	.....
Pavilion, town	35	22	12
Pembroke, town	20	29	16
Stafford, town	29	23	8
Greene County	**500**	**469**	**228**
Ashland, town	7	5	6
Athens, town	14	15	25
Athens, village	28	35	.....
Cairo, town	30	37	16
Greene County—(*Continued*)			
Catskill, town	86	39	70
Catskill, village	94	75	.....
Coxsackie, town	23	14	16
Coxsackie, village	23	41	.....
Durham, town	21	28	13
Greenville, town	22	26	7
Halcott, town	6	4	2
Hunter, town	28	35	27
Hunter, village	5	12	.....
Jewett, town	15	17	8
Lexington, town	13	17	6
New Baltimore, town	29	29	14
Prattsville, town	16	4	7
Tannersville, village	17	9	.....
Windham, town	23	27	11
Hamilton County	**75**	**45**	**36**
Arietta, town	1	6	.....
Benson, town	4	1	.....
Hope, town	2	1	2
Indian Lake, town	21	8	9
Inlet, town	2	3	1
Lake Pleasant, town	8	8	6
Long Lake, town	23	5	13
Morehouse, town	6	2	1
Wells, town	8	11	4
Herkimer County	**1,470**	**1,053**	**597**
Cold Brook, village	6	4	.....
Columbia, town	11	26	3
Danube, town	16	12	6
Dolgeville, village§	80	29	.....
Fairfield, town	20	8	9
Frankfort, town	32	48	37
Frankfort, village	156	84	.....
German Flats, town	22	24	103
Herkimer, town	22	63	118
Herkimer, village	232	130	.....
Ilion, village	146	108	.....
Litchfield, town	10	16	6
Little Falls, town	16	10	4
Little Falls, city	416	240	213
Manheim, town	10	12	33
Middleville, village	16	7	.....
Mohawk, village	49	36	.....
Newport, town	18	11	9
Newport, village	14	19	.....
Norway, town	13	9	6
Ohio, town	10	6	3
Old Forge, village	11	7	.....
Poland, village	0	7	.....
Russia, town	26	23	6
Salisbury, town	18	21	9
Schuyler, town	21	13	4
Stark, town	22	11	2
Warren, town	22	25	6
Webb, town	21	18	4
West Winfield, village	8	14	.....
Wilmurt, town	2	2	3
Winfield, town	4	10	13

*Stillbirths excluded.

† Part of village in Essex county.

‡ Dolgeville, village, located in two counties, Fulton and Herkimer. Deaths and births shown are for that part of village located in Fulton county. Total for entire village in italics.

§ See Fulton county for complete total.

Digitized by Google

Table 17 — *Births, etc., by counties, etc.:* 1914 —(*Continued*)

COUNTY AND SUBDIVISIONS (ALPHABETIC ORDER)	Births, 1914*	Deaths, 1914*	Marriages, 1914
Jefferson County	**1,484**	**1,154**	**725**
Adams, town	32	32	29
Adams, village	17	17	.....
Alexander, town	40	20	33
Alexandria Bay, village	48	22	.....
Antwerp, town	35	24	16
Antwerp, village	16	10	.....
Belleville, village	4	2	.....
Black River, village	24	11	.....
Brownville, town	11	13	42
Brownville, village	19	18	.....
Cape Vincent, town	25	12	17
Cape Vincent, village	21	10	.....
Carthage, village	96	59	.....
Champion, town	12	14	18
Chaumont, village	15	17	.....
Clayton, town	32	20	35
Clayton, village	37	32	.....
Dexter, village	22	18	.....
Ellisburg, town	43	25	26
Ellisburg, village	4	5	.....
Glen Park, village	5	2	.....
Henderson, town	25	23	16
Henderson, village	5	4	.....
Hounsfield, town	20	13	27
LeRay, town	38	30	24
Lorraine, town	13	5	7
Lyme, town	14	8	14
Mannsville, village	4	5	.....
Orleans, town	40	27	15
Pamelia, town	10	25	4
Philadelphia, town	12	8	19
Philadelphia, village	13	15	.....
Rodman, town	14	21	7
Rutland, town	27	19	13
Sacketts Harbor, vil	13	8	.....
Theresa, town	23	10	20
Theresa, village	18	18	.....
Watertown, town	10	10	8
Watertown, city	548	458	278
West Carthage, vil	28	25	.....
Wilna, town	38	33	53
Worth, town	13	6	4
Lewis County	**465**	**395**	**170**
Constableville, village	9	9	.....
Copenhagen, village	8	15	.....
Croghan, town	50	27	21
Croghan, village	15	12	.....
Denmark, town	24	18	11
Diana, town	35	25	13
Greig, town	9	9	2
Harrisburg, town	18	6	6
Harrisville, village	21	12	.....
Highmarket, town	4	3	1
Lewis, town	17	6	5
Leyden, town	24	19	8
Lowville, town	14	30	34
Lowville, village	38	61	.....
Lyonsdale, town	23	18	7
Lyons Falls, village	18	11	.....
Martinsburg, town	30	30	9
Montague, town	11	6	5
New Bremen, town	34	21	10
Osceola, town	9	4	3
Pinckney, town	12	7	6
Lewis County — (*Continued*)			
Port Leyden, village	4	11	.....
Turin, town	11	13	12
Turin, village	2	7	.....
Watson, town	12	8	6
West Turin, town	13	7	11
Livingston County	**731**	**651**	**247**
Avon, town	15	22	17
Avon, village	46	32	.....
Caledonia, town	10	9	22
Caledonia, village	31	27	.....
Conesus, town	20	16	11
Dansville, village	79	64	.....
Geneseo, town	18	33	28
Geneseo, village	46	28	.....
Groveland, town	34	147	11
Leicester, town	42	17	9
Lima, town	24	17	5
Lima, village	15	10	.....
Livonia, town	36	19	16
Livonia, village	10	9	.....
Moscow, village	4	0	.....
Mount Morris, town	27	13	13
Mount Morris, village	110	57	.....
North Dansville, town	6	3	44
Nunda, town	11	18	18
Nunda, village	11	16	.....
Ossian, town	12	8	3
Portage, town	17	21	6
Sparta, town	22	11	5
Springwater, town	41	18	17
West Sparta, town	10	5	3
York, town	34	31	19
Madison County	**781**	**666**	**299**
Brookfield, town	25	28	15
Brookfield, village	4	14	.....
Canastota, village	87	47	.....
Casenovia, town	22	24	25
Casenovia, village	29	41	.....
Chittenango, village	11	13	.....
De Ruyter, town	12	10	14
De Ruyter, village	5	20	.....
Earlville, village†	7	9	.....
Eaton, town	33	47	22
Fenner, town	23	21	4
Georgetown, town	22	16	5
Hamilton, town	27	18	25
Hamilton, village	29	24	.....
Lebanon, town	17	17	6
Lenox, town	27	17	49
Lincoln, town	6	12	6
Madison, town	35	16	13
Madison, village	0	6	.....
Morrisville, village	7	12	.....
Nelson, town	23	17	9
Oneida, city	239	167	75
Smithfield, town	15	14	5
Stockbridge, town	21	15	13
Sullivan, town	51	39	13
Wampsville, village	4	2	.....

* Stillbirths excluded.
† See Chenango county for complete total.

Digitized by Google

Table 17 — *Births, etc., by counties, etc.:* **1914** —(*Continued*)

COUNTY AND SUBDIVISIONS (ALPHABETIC ORDER)	Births, 1914*	Deaths, 1914*	Marriages, 1914
Monroe County	7,854	4,489	3,324
Brighton, town	49	141	8
Brockport, village	48	59	.....
Charlotte, village	32	57	.....
Chili, town	30	25	.....
Churchville, village	6	9	.....
Clarkson, town	23	14	13
East Rochester, vil	129	37	.....
Fairport, village	82	54	.....
Gates, town	110	52	35
Greece, town	115	101	63
Hamlin, town	60	32	15
Henrietta, town	18	19	12
Hilton, village	11	6	.....
Honeoye Falls, village	19	14	.....
Irondequoit, town	77	40	11
Mendon, town	38	21	10
Ogden, town	35	23	22
Parma, town	52	27	27
Penfield, town	45	37	16
Perinton, town	27	22	61
Pittsford, town	17	12	35
Pittsford, village	19	17	.....
Riga, town	24	12	9
Rochester, city	6,601	3,511	2,899
Rush, town	26	20	8
Spencerport, village	15	16	.....
Sweden, town	31	15	40
Webster, town	49	45	32
Webster, village	26	18	.....
Wheatland, town	40	33	8
Montgomery County	1,501	912	604
Amsterdam, town	24	23	13
Amsterdam, city	1,067	496	415
Canajoharie, town	22	21	23
Canajoharie, village	32	44	.....
Charlestown, town	11	15	7
Florida, town	21	32	12
Fonda, village	32	15	.....
Fort Johnson, village	10	7	.....
Fort Plain, village	48	46	.....
Fultonville, village	18	21	.....
Glen, town	14	15	12
Hagaman, village	25	15	.....
Minden, town	13	23	45
Mohawk, town	17	25	29
Nelliston, village	9	11	.....
Palatine, town	18	26	3
Palatine Bridge, vil	8	4	.....
Root, town	19	20	6
St. Johnsville, town	10	11	39
St. Johnsville, village	83	42	.....
Nassau County	2,352	1,248	782
Cedarhurst, village	36	19	.....
East Rockaway, vil	24	21	.....
Farmingdale, village	26	17	.....
Floral Park, village	34	12	.....
Freeport, village	114	65	.....
Hempstead, town	609	303	378
Hempstead, village	123	64	.....
Lawrence, village	16	8	.....
Long Beach, village	2	11	.....
Lynbrook, village	55	36	.....
Mineola, village	138	153	.....
N. Hempstead, town	485	196	180
Oyster Bay, town	575	264	224

COUNTY AND SUBDIVISIONS (ALPHABETIC ORDER)	Births, 1914*	Deaths, 1914*	Marriages, 1914
Nassau County—(*Continued*)			
Plandome, village	3	0	...
Rockville Center, village	87	46	..
Sea Cliff, village	25	33	..
New York (Greater)	140,528	74,803	53,051
City of New York:			
Borough of Manhattan	65,293	36,033	31,45[illegible]
Borough of the Bronx	15,704	7,221	4,057
Borough of Brooklyn	48,241	25,009	14,[illegible]
Borough of Queens	8,937	5,000	2,0[illegible]
Borough of Richmond	2,353	1,540	614
Niagara County	2,832	1,397	1,191
Barker, village	7	7	..
Cambria, town	22	13	1[illegible]
Hartland, town	65	25	1[illegible]
LaSalle, village	54	20	..
Lewiston, town	36	30	15
Lewiston, village	14	17	..
Lockport, town	37	42	4
Lockport, city	348	285	1[illegible]
Middleport, village	19	24	.....
Newfane, town	101	60	4[illegible]
Niagara, town	3	2	.....
Niagara Falls, city	1,430	546	66[illegible]
N. Tonawanda, city	418	162	125
Pendleton, town	25	13	9
Porter, town	44	23	20
Royalton, town	60	44	36
Somerset, town	31	16	15
Wheatfield, town	36	18	23
Wilson, town	50	29	15
Wilson, village	13	14	.....
Youngstown, village	19	7	.....
Oneida County	4,179	3,038	1,501
Annsville, town	26	25	.....
Augusta, town	16	23	23
Ava, town	12	7	4
Boonville, town	21	33	28
Boonville, village	28	34	.....
Bridgewater, town	10	7	7
Bridgewater, village	3	8	.....
Camden, town	17	25	19
Camden, village	32	39	.....
Clayville, village	26	12	.....
Clinton, village	11	20	.....
Deerfield, town	27	31	9
Florence, town	21	17	6
Floyd, town	9	8	5
Forestport, town	12	8	9
Forestport, village	9	14	.....
Holland Patent, village	4	7	.....
Kirkland, town	86	44	33
Lee, town	21	22	5
Marcy, town	14	16	.....
Marshall, town	29	19	6
New Hartford, town	119	46	59
New Hartford, village	19	22	.....

*Stillbirths excluded.

Digitized by Google

Table 17 — *Births, etc., by counties, etc.:* **1914** —(*Continued*)

COUNTY AND SUB-DIVISIONS (ALPHABETIC ORDER)	Births, 1914*	Deaths, 1914*	Marriages, 1914
Oneida County—(*Continued*)			
Oneida Castle, village	2	5	.....
Oriskany Falls, village	8	19	.....
Paris, town	51	36	.....
Prospect, village	7	10	.....
Remsen, town	13	10	2
Remsen, village	3	8	.....
Rome, city	628	531	213
Sangerfield, town	22	8	17
Steuben, town	15	5	5
Trenton, town	25	19	16
Trenton, village	5	7	.....
Utica, city	2,434	1,547	966
Vernon, town	42	35	19
Vernon, village	7	12	.....
Verona, town	67	54	16
Vienna, town	20	34	16
Waterville, village	21	32	.....
Western, town	17	18	9
Westmoreland, town	30	35	9
Whitesboro, village	38	37	.....
Whitestown, town	134	72	.....
Yorkville, village	18	17	.....
Onondaga County	**4,553**	**3,216**	**1,905**
Baldwinsville, village	61	61	.....
Camillus, town	33	39	25
Camillus, village	18	12	.....
Cicero, town	42	27	23
Clay, town	28	33	18
Dewitt, town	59	41	50
East Syracuse, village	86	36	.....
Eastwood, village	35	16	.....
Elbridge, town	21	11	25
Elbridge, village	7	9	.....
Fabius, town	25	14	7
Fabius, village	5	5	.....
Fayetteville, village	35	22	.....
Geddes, town	20	10	71
Jordan, village	7	16	.....
LaFayette, town	21	23	10
Liverpool, village	23	24	.....
Lysander, town	45	34	40
Manlius, town	46	28	51
Manlius, village	22	21	.....
Marcellus, town	35	23	18
Marcellus, village	18	9	.....
Minoa, village	16	13	.....
Onondaga, town	91	209	37
Otisco, town	12	11	5
Pompey, town	44	31	10
Salina, town	29	46	30
Skaneateles, town	59	32	40
Skaneateles, village	23	35	.....
Solvay, village	147	45	.....
Spafford, town	20	11	10
Syracuse, city	3,358	2,221	1,410
Tully, town	27	17	3
Tully, village	7	9	.....
Van Buren, town	28	22	22
Ontario County	**1,054**	**799**	**374**
Bristol, town	17	11	14
Canadice, town	12	8	6
Canandaigua, town	37	20	8
Canandaigua, city	165	146	75
Clifton Springs, village	24	50	.....
East Bloomfield, town	22	38	12
Farmington, town	33	13	11
Geneva, town	16	7	10

COUNTY AND SUB-DIVISIONS (ALPHABETIC ORDER)	Births, 1914*	Deaths, 1914*	Marriages, 1914
Ontario County—(*Continued*)			
Geneva, city	333	235	112
Gorham, town	33	17	12
Hopewell, town	16	22	11
Manchester, town	24	15	16
Manchester, village	42	11	.....
Naples, town	12	17	13
Naples, village	15	14	.....
Phelps, town	55	34	32
Phelps, village	14	23	.....
Richmond, town	23	19	3
Seneca, town	54	33	22
Shortsville, village	24	14	.....
South Bristol, town	10	9	3
Victor, town	32	18	5
Victor, village	19	8	.....
West Bloomfield, town	22	17	9
Orange County	**2,208**	**1,944**	**919**
Blooming Grove, town	26	28	9
Chester, town	24	12	13
Chester, village	9	15	.....
Cornwall, town	41	25	34
Cornwall, village	34	38	.....
Crawford, town	27	15	10
Deerpark, town	21	33	11
Goshen, town	35	59	47
Goshen, village	49	68	.....
Greenville, town	9	7	4
Hamptonburgh, town	17	11	4
Highland Falls, village	88	43	.....
Highlands, town	36	24	46
Middletown, city	255	388	149
Minisink, town	19	16	8
Monroe, town	28	15	18
Monroe, village	27	25	.....
Montgomery, town	53	33	61
Montgomery, village	12	17	.....
Mount Hope, town	23	35	6
Newburgh, town	116	71	23
Newburgh, city	606	515	247
New Windsor, town	54	26	15
Port Jervis, city	174	159	108
Tuxedo, town	63	28	17
Unionville, village	4	4	.....
Walden, village	66	51	.....
Wallkill, town	41	61	18
Warwick, town	126	46	55
Warwick, village	40	29	.....
Washingtonville, vil.	7	11	.....
Wawayanda, town	42	14	9
Woodbury, town	36	22	7
Orleans County	**710**	**457**	**266**
Albion, town	42	38	63
Albion, village	116	77	.....
Barre, town	30	17	6
Carlton, town	53	22	11
Clarendon, town	29	16	12
Gaines, town	33	28	12
Holley, village	36	26	.....
Kendall, town	33	19	4
Lyndonville, village	14	11	.....
Medina, village	142	87	.....
Murray, town	65	38	40
Ridgeway, town	59	35	72
Shelby, town	37	31	30
Yates, town	21	12	16

* Stillbirths excluded.

Digitized by Google

Table 17 — *Births, etc., by counties, etc.:* **1914** —(*Continued*)

COUNTY AND SUB-DIVISIONS (ALPHABETIC ORDER)	Births, 1914*	Deaths, 1914*	Marriages, 1914
Oswego County	**1,565**	**1,255**	**648**
Albion, town	20	14	11
Altmar, village	5	6	.....
Amboy, town	12	9	8
Boylston, town	10	10	4
Central Square, village	6	3	.....
Cleveland, village	13	10	.....
Constantia, town	23	20	14
Fulton, city	332	178	153
Granby, town	34	31	17
Hannibal, town	33	46	14
Hannibal, village	1	8	.....
Hastings, town	32	29	9
Lacona, village	4	4	.....
Mexico, town	34	41	22
Mexico, village	16	30	.....
New Haven, town	26	26	9
Orwell, town	18	26	9
Oswego, town	52	37	22
Oswego, city	561	430	210
Palermo, town	27	22	6
Parish, town	15	10	7
Parish, village	8	7	.....
Phoenix, village	36	29	.....
Pulaski, village	23	19	.....
Redfield, town	21	8	5
Richland, town	34	47	35
Sandy Creek, town	12	18	17
Sandy Creek, village	6	19	.....
Schroeppel, town	20	22	22
Scriba, town	48	38	17
Volney, town	44	28	19
West Monroe, town	17	11	11
Williamstown, town	22	19	7
Otsego County	**798**	**817**	**375**
Burlington, town	19	14	5
Butternuts, town	25	8	9
Cherry Valley, town	10	19	12
Cherry Valley, village	9	17	.....
Cooperstown, village	48	58	.....
Decatur, town	10	6	2
Edmeston, town	30	30	14
Exeter, town	18	17	5
Gilbertsville, village	9	13	.....
Hartwick, town	32	29	9
Laurens, town	15	26	9
Laurens, village	3	3	.....
Maryland, town	15	16	15
Middlefield, town	30	71	7
Milford, town	19	17	13
Milford, village	8	6	.....
Morris, town	11	11	8
Morris, village	6	10	.....
New Lisbon, town	11	15	7
Oneonta, town	15	19	13
Oneonta, city	227	154	112
Otego, town	13	12	11
Otego, village	6	16	.....
Otsego, town	24	32	32
Pittsfield, town	19	14	4
Plainfield, town	13	10	6
Richfield, town	11	9	23
Richfield Springs, vil.	23	24	.....
Roseboom, town	16	18	5
Schenevus, village	1	12	.....
Springfield, town	20	23	7
Unadilla, town	24	18	20
Otsego County—(*Continued*)			
Unadilla, village	14	22	.....
Westford, town	8	12	6
Worcester, town	36	36	21
Putnam County	**255**	**189**	**81**
Brewster, village	24	21	.....
Carmel, town	38	36	12
Cold Spring, village	41	29	.....
Kent, town	16	13	1
Nelsonville, village	8	7	.....
Patterson, town	33	16	12
Phillipstown, town	38	25	21
Putnam Valley, town	8	21	5
South East, town	49	21	30
Rensselaer County	**2,009**	**2,241**	**953**
Berlin, town	21	28	3
Brunswick, town	46	33	10
Castleton, village	27	14	.....
East Greenbush, town	14	22	12
Grafton, town	12	16	10
Hoosick, town	23	38	66
Hoosick Falls, village	108	83	.....
Nassau, town	29	21	21
Nassau, village	3	4	.....
N. Greenbush, town	17	16	7
Petersburg, town	19	20	8
Pittstown, town	34	31	13
Poestenkill, town	10	9	7
Rensselaer, city	152	169	87
Sand Lake, town	29	47	16
Schaghticoke, town	18	18	15
Schaghticoke, village	4	10	.....
Schodack, town	45	48	38
Stephentown, town	23	13	9
Troy, city	1,365	1,589	630
Valley Falls, village	10	12	.....
Rockland County	**838**	**640**	**302**
Clarkstown, town	119	91	50
Grand View-on-Hudson, village	8	1	.....
Haverstraw, town	23	13	51
Haverstraw, village	116	67	.....
Hillburn, village	25	13	.....
Nyack, village	93	103	.....
Orangetown, town	72	63	84
Piermont, village	19	22	.....
Ramapo, town	92	85	96
South Nyack, village	30	23	.....
Spring Valley, village	65	27	.....
Stony Point, town	61	38	21
Suffern, village	75	48	.....
Upper Nyack, vil.	8	9	.....
West Haverstraw, vil.	32	37	.....
St. Lawrence County	**1,836**	**1,526**	**732**
Brasher, town	42	30	19
Canton, town	75	80	55
Canton, village	40	51	.....

* Stillbirths excluded.

Digitized by Google

Table 17 — *Births, etc., by counties, etc.:* **1914** —(*Continued*)

COUNTY AND SUB-DIVISIONS (ALPHABETIC ORDER)	Births, 1914*	Deaths, 1914*	Marriages, 1914
St. Lawrence County—(*Continued*)			
Clare, town	22	7	2
Clifton, town	40	21	11
Colton, town	22	31	8
DeKalb, town	38	21	26
DePeyster, town	17	14	7
Edwards, town	21	10	10
Edwards, village	4	5	.....
Fine, town	33	12	14
Fowler, town	31	16	7
Gouverneur, town	33	23	50
Gouverneur, village	66	75	.....
Hammond, town	19	19	17
Hammond, village	6	3	.....
Hermon, town	16	11	9
Hermon, village	12	9	.....
Heuvelton, village	4	11	.....
Hopkinton, town	25	31	12
Lawrence, town	29	26	14
Lisbon, town	50	44	18
Louisville, town	31	21	11
Macomb, town	16	14	5
Madrid, town	23	21	9
Massena, town	42	26	54
Massena, village	105	59	.....
Morristown, town	34	18	18
Morristown, village	6	10	.....
Norfolk, town	74	34	18
Norwood, village	51	25	.....
Odgensburg, city	405	436	114
Oswegatchie, town	14	28	64
Parishville, town	30	22	15
Piercefield, town	37	5	14
Pierrepont, town	17	18	10
Pitcairn, town	14	17	5
Potsdam, town	65	46	70
Potsdam, village	92	58	.....
Rensselaer Falls, vil.	7	8	.....
Richville, village	5	7	.....
Rossie, town	22	10	4
Russell, town	37	20	16
Stockholm, town	51	47	15
Waddington, town	9	11	8
Waddington, village	4	15	.....
Saratoga County	**1,227**	**1,011**	**454**
Ballston, town	31	13	10
Ballston Spa, village	47	62	.....
Charlton, town	22	10	5
Clifton Park, town	46	32	9
Corinth, town	20	27	38
Corinth, village	54	26	.....
Day, town	11	9	7
Edinburg, town	11	15	11
Galway, town	29	19	8
Galway, village	3	2	.....
Greenfield, town	25	17	9
Hadley, town	7	14	5
Halfmoon, town	29	27	42
Malta, town	23	24	8
Mechanicville, vil.	285	90	.....
Milton, town	30	51	26
Moreau, town	24	20	23
Northumberland, town	19	17	7
Providence, town	8	4	3
Saratoga, town	33	19	35
Saratoga Springs, town	4	18	94
Saratoga Springs, vil.	251	259	.....
Saratoga County—(*Continued*)			
Schuylerville, village	28	27	.....
South Glens Falls, vil.	51	26	.....
Stillwater, town	17	35	57
Stillwater, village	6	11	.....
Victory Mills, village	14	17	.....
Waterford, town	48	60	55
Waterford, village	52	43	.....
Wilton, town	9	17	2
Schenectady County	**2,485**	**1,276**	**773**
Duanesburgh, town	37	30	4
Glenville, town	41	53	30
Niskayuna, town	43	32	7
Princetown, town	10	8	2
Rotterdam, town	129	65	12
Schenectady, city	2,157	1,040	718
Scotia, village	68	48	.....
Schoharie County	**340**	**353**	**149**
Blenheim, town	11	8	6
Broome, town	18	11	7
Carlisle, town	5	14	7
Cobleskill, town	20	16	27
Cobleskill, village	33	43	.....
Conesville, town	15	9	.....
Esperance, town	11	15	4
Esperance, village	1	2	.....
Fulton, town	16	22	14
Gilboa, town	25	25	15
Jefferson, town	17	13	5
Middleburgh, town	20	15	17
Middleburgh, village	18	20	.....
Richmondville, town	14	13	9
Richmondville, village	0	11	.....
Schoharie, town	19	23	11
Schoharie, village	19	19	.....
Seward, town	21	21	6
Sharon, town	10	12	11
Sharon Springs, vil.	14	8	.....
Summit, town	22	17	3
Wright, town	11	16	7
Schuyler County	**242**	**239**	**114**
Burdett, village	4	6	.....
Catherine, town	11	12	5
Cayuta, town	11	9	3
Dix, town	13	14	47
Hector, town	44	55	21
Montour, town	5	0	15
Montour Falls, vil.	20	32	.....
Odessa, village	4	6	.....
Orange, town	18	22	10
Reading, town	28	15	6
Tyrone, town	27	17	7
Watkins, village	57	51	.....
Seneca County	**457**	**550**	**158**
Covert, town	19	12	12
Fayette, town	31	25	16
Interlaken, village	10	14	.....

* Stillbirths excluded.

Digitized by Google

Table 17 — *Births, etc., by counties, etc.:* **1914** — (*Continued*)

COUNTY AND SUBDIVISIONS (ALPHABETIC ORDER)	Births, 1914*	Deaths, 1914*	Marriages, 1914
Seneca County — (*Continued*)			
Junius, town	7	19	4
Lodi, town	31	14	8
Ovid, town	18	106	10
Ovid, village	9	13	.....
Romulus, town	22	117	6
Seneca Falls, town	13	9	54
Seneca Falls, village	159	103	.....
Tyre, town	20	16	5
Varick, town	22	17	3
Waterloo, town	24	13	40
Waterloo, village	72	72	.....
Steuben County	**1,450**	**1,389**	**746**
Addison, town	10	10	21
Addison, village	21	24	.....
Arkport, village	9	11	.....
Avoca, town	18	13	15
Avoca, village	16	12	.....
Bath, town	32	234	46
Bath, village	62	76	.....
Bradford, town	9	4	1
Cameron, town	16	11	10
Campbell, town	19	24	13
Canisteo, town	18	19	39
Canisteo, village	38	29	.....
Caton, town	26	19	4
Cohocton, town	25	27	13
Cohocton, village	16	13	.....
Corning, town	39	31	23
Corning, city	280	203	175
Dansville, town	31	19	4
Erwin, town	7	19	16
Fremont, town	15	15	9
Greenwood, town	23	19	13
Hammondsport, vil.	27	19	.....
Hartsville, town	12	9	6
Hornby, town	17	13	8
Hornell, city	267	220	147
Hornellsville, town	14	21	17
Howard, town	26	19	9
Jasper, town	23	11	18
Lindley, town	26	15	10
Painted Post, village	32	20	.....
Prattsburg, town	23	13	13
Prattsburg, village	13	14	.....
Pulteney, town	13	23	11
Rathbone, town	12	11	1
Savona, village	7	10	.....
Thurston, town	18	11	5
Troupsburg, town	37	20	17
Tuscarora, town	13	9	6
Urbana, town	21	7	27
Wayland, town	24	15	19
Wayland, village	28	27	.....
Wayne, town	13	7	7
West Union, town	23	9	8
Wheeler, town	12	9	9
Woodhull, town	12	17	6
Woodhull, village	7	8	.....
Suffolk County	**1,990**	**1,996**	**705**
Amityville, village	30	97	.....
Babylon, town	97	58	54
Babylon, village	67	42	.....
Bellport, village	11	3	.....
Suffolk County — (*Continued*)			
Brookhaven, town	277	203	115
Easthampton, town	87	38	36
Greenport, village	71	58	.....
Huntington, town	250	137	92
Islip, town	350	581	110
Northport, village	43	33	.....
Patchogue, village	87	49	.....
Riverhead, town	90	98	59
Sag Harbor, village	73	51	.....
Shelter Island, town	20	7	5
Smithtown, town	64	336	36
Southampton, town	169	88	101
Southampton, village	54	43	.....
Southold, town	150	74	97
Sullivan County	**564**	**737**	**258**
Bethel, town	28	35	12
Callicoon, town	36	35	12
Centerville Station, vil.	9	7	.....
Cochecton, town	16	22	9
Delaware, town	22	46	15
Fallsburgh, town	76	84	27
Forestburgh, town	9	5	1
Fremont, town	24	20	10
Highland, town	11	43	10
Liberty, town	61	109	43
Liberty, village	32	88	.....
Lumberland, town	10	13	5
Mamakating, town	43	38	22
Monticello, village	30	51	.....
Neversink, town	27	23	16
Rockland, town	63	50	37
Thompson, town	40	49	28
Tusten, town	19	9	11
Wurtsboro, village	8	10	.....
Tioga County	**398**	**402**	**284**
Barton, town	20	21	131
Berkshire, town	15	7	8
Candor, town	35	31	16
Candor, village	8	15	.....
Newark Valley, town	21	18	10
Newark Valley, village	8	15	.....
Nichols, town	21	12	8
Nichols, village	10	2	.....
Owego, town	42	49	79
Owego, village	55	104	.....
Richford, town	15	5	8
Spencer, town	18	15	14
Spencer, village	17	14	.....
Tioga, town	33	30	10
Waverly, village	80	64	.....
Tompkins County	**649**	**536**	**299**
Caroline, town	40	29	10
Danby, town	21	21	7
Dryden, town	45	37	21
Dryden, village	12	14	.....
Enfield, town	14	13	2
Freeville, village	5	7	.....
Groton, town	35	33	28
Groton, village	31	16	.....
Ithaca, town	32	14	7

* Stillbirths excluded.

Digitized by Google

Table 17 — *Births, etc., by counties, etc.:* **1914** —(*Continued*)

COUNTY AND SUBDIVISIONS (ALPHABETIC ORDER)	Births, 1914*	Deaths, 1914*	Marriages, 1914
Tompkins County—(*Continued*)			
Ithaca, city	312	246	182
Lansing, town	49	45	13
Newfield, town	19	8	15
Newfield, village	1	5	.....
Trumansburg, vil.	12	15	.....
Ulysses, town	21	33	14
Ulster County	**1,571**	**1,318**	**669**
Denning, town	6	7	4
Ellenville, village	50	51	.....
Esopus, town	75	62	18
Gardiner, town	25	19	10
Hardenburg, town	9	7	5
Hurley, town	13	24	8
Kingston, town	5	8	1
Kingston, city	446	488	242
Lloyd, town	51	44	25
Marbletown, town	50	29	22
Marlborough, town	70	43	25
Marlboro, village	15	12	.....
New Paltz, town	23	30	20
New Paltz, village	25	17	.....
Olive, town	110	48	20
Pine Hill, village	5	6	.....
Plattekill, town	38	20	14
Rifton, village	9	3	.....
Rochester, town	30	41	15
Rosendale, town	44	25	13
Rosendale, village	7	9	.....
Saugerties, town	140	88	92
Saugerties, village	61	60	.....
Shandaken, town	26	31	29
Shawangunk, town	42	30	19
Ulster, town	57	36	18
Wawarsing, town	80	54	52
Woodstock, town	34	20	17
Warren County	**606**	**546**	**268**
Bolton, town	28	22	14
Caldwell, town	16	6	7
Chester, town	51	33	3
Glens Falls, city	322	290	141
Hague, town	9	9	12
Horicon, town	26	10	13
Johnsburg, town	43	29	15
Lake George, village	14	12	.....
Luzerne, town	19	14	7
Queensbury, town	44	48	23
Stony Creek, town	6	10	3
Thurman, town	10	13	6
Warrensburgh, town	26	50	24
Washington County	**851**	**699**	**358**
Argyle, town	18	30	10
Argyle, village	1	4	.....
Cambridge, town	16	14	7
Cambridge, village	26	40	.....
Dresden, town	12	8	3
Easton, town	27	18	9
Fort Ann, town	54	29	19
Fort Ann, village	5	10	.....
Fort Edward, town	32	24	43
Fort Edward, village	101	54	.....
Washington County—(*Continued*)			
Granville, town	29	25	52
Granville, village	81	54	.....
Greenwich, town	51	44	32
Greenwich, village	35	49	.....
Hampton, town	12	8	5
Hartford, town	15	23	8
Hebron, town	16	12	5
Hudson Falls, village	116	69	.....
Jackson, town	13	22	2
Kingsbury, town	26	28	68
Putnam, town	13	5	5
Salem, town	17	18	20
Salem, village	13	12	.....
White Creek, town	12	17	16
Whitehall, town	20	13	54
Whitehall, village	110	69	.....
Wayne County	**1,088**	**691**	**392**
Arcadia, town	54	23	76
Butler, town	21	22	4
Clyde, village	82	39	.....
Galen, town	43	22	36
Huron, town	34	27	11
Lyons, town	32	33	39
Lyons, village	109	79	.....
Macedon, town	39	14	17
Macedon, village	17	7	.....
Marion, town	62	34	19
Newark, village	130	89	.....
Ontario, town	65	40	25
Palmyra, town	42	24	31
Palmyra, village	32	25	.....
Red Creek, village	6	6	.....
Rose, town	32	20	10
Savannah, town	20	16	6
Savannah, village	10	2	.....
Sodus, town	105	63	38
Walworth, town	42	25	12
Williamson, town	79	37	39
Wolcott, town	12	21	29
Wolcott, village	20	23	.....
Westchester County	**7,643**	**4,035**	**2,602**
Ardsley, village	13	7	.....
Bedford, town	83	78	36
Briarcliff Manor, vil.	13	8	.....
Bronxville, village	40	35	.....
Cortlandt, town	104	96	147
Croton-on-Hudson, vil.	47	19	.....
Dobbs Ferry, village	84	46	.....
Eastchester, town	39	18	52
Elmsford, village	37	10	.....
Greenburgh, town	43	43	138
Harrison, town	111	53	29
Hastings-on-Hudson, village	153	34	.....
Hillside, village	3	22	.....
Irvington, village	45	20	.....
Larchmont, village	37	13	.....
Lewisboro, town	28	17	10
Mamaroneck, town	9	4	48
Mamaroneck, village	142	69	.....
Mount Kisco, village	81	37	.....
Mount Pleasant, town	67	214	85
Mount Vernon, city	906	390	261
New Castle, town	30	24	12

* Stillbirths excluded.

Digitized by Google

Table 17 — *Births, etc., by counties, etc.:* **1914** —(*Concluded*)

COUNTY AND SUBDIVISIONS (ALPHABETIC ORDER)	Births, 1914*	Deaths, 1914*	Marriages, 1914
Westchester County— (*Continued*)			
New Rochelle, city	736	357	286
North Castle, town	74	29	10
North Pelham, village	30	19	.....
North Salem, town	15	19	4
N. Tarrytown, village	148	63	.....
Ossining, town	4	7	73
Ossining, village	175	187	.....
Peekskill, village	306	255	.....
Pelham, town	5	0	27
Pelham, village	5	3	.....
Pelham Manor, vil.	11	10	.....
Pleasantville, village	46	27	.....
Port Chester, village	559	194	.....
Poundridge, town	8	9	11
Rye, town	7	5	310
Rye, village	50	42	.....
Scarsdale, town	32	13	9
Somers, town	17	19	6
Tarrytown, village	79	75	.....
Tuckahoe, village	138	44	.....
White Plains, town	2	12	191
White Plains, village	521	258	.....
Yonkers, city	2,517	1,094	850
Yorktown, town	43	37	7
Wyoming County	**616**	**411**	**284**
Arcade, town	11	15	22
Arcade, village	34	16	.....
Attica, town	9	8	14
Attica, village	24	25	.....
Bennington, town	18	13	17
Castile, town	24	11	14
Castile, village	20	19	.....
Wyoming County— (*Continued*)			
Covington, town	32	5	6
Eagle, town	21	25	9
Gainesville, town	20	13	12
Gainesville, village	6	6	.....
Genesee Falls, town	13	8	7
Java, town	29	21	10
Middlebury, town	22	23	5
Orangeville, town	22	21	9
Perry, town	33	19	89
Perry, village	113	42	.....
Pike, town	15	12	9
Pike, village	4	3	.....
Sheldon, town	35	23	11
Silver Springs, village	20	9	.....
Warsaw, town	20	9	44
Warsaw, village	57	56	.....
Wethersfield, town	14	9	6
Yates County	**291**	**275**	**145**
Barrington, town	16	11	2
Benton, town	33	19	15
Dresden, village	7	5	.....
Dundee, village	11	22	.....
Italy, town	23	7	6
Jerusalem, town	36	38	15
Middlesex, town	14	8	6
Milo, town	20	27	66
Penn Yan, village	81	80	.....
Potter, town	17	15	6
Rushville, village	4	14	.....
Starkey, town	22	17	18
Torrey, town	7	12	11
Grand total	**240,038**	**145,276**	**93,793**

*Stillbirths excluded.

Digitized by Google

Table 18—State of New York (Exclusive of New York City): District numbers, population (U. S. Census, April 15, 1910), and deaths from important communicable diseases (chiefly), by counties, for each registration district (city, village, and town), with separate statement for all State Institutions: 1914

Digitized by Google

Table 18 — STATE OF NEW YORK (exclusive of New York city): *and deaths from important communicable diseases (chiefly), with separate statement for all State Institutions:* 1914

[District Number is obtained by prefixing County Number to Number before each district

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
1 ALBANY COUNTY	173,666	3,133	29	4	9	10	31	27	18
01 Albany, city	100,253	1,993	17	2	3	8	6	13	15
02 Cohoes, city	24,709	394	5		2	1	6	6	
03 Watervliet, city	15,074	230	5	1	3		7		
50 Berne	1,753	33							
51 Bethlehem	4,413	54							2
52 Coeymans	4,252	42		1			1	3	
23 Ravena		*2*							
53 Colonie	8,385	145					7	3	
54 Green Island *									
20 Green Island, village	*4,737*	*73*	*1*			*1*	*3*	*2*	*1*
55 Guilderland	2,659	46							
21 Altamont, village	*674*	*8*			*1*				
56 Knox	1,007	20							
57 New Scotland	2,301	36	1				1		
22 Voorheesville, village	*533*	*8*							
58 Rensselaerville	1,609	26							
59 Westerlo	1,307	23							
Total, villages		*91*	*1*		*1*	*1*	*3*	*2*	*1*
Total, towns		425	1				9	6	2
2 ALLEGANY COUNTY	41,412	568	7				1		11
50 Alfred	831	13	1						2
20 Alfred, village	*759*	*16*							
51 Allen	598	4							
52 Alma	973	10							
53 Almond	1,297	17							1
54 Amity	977	12							
21 Belmont, village	*1,094*	*23*							*1*
55 Andover	854	7	1						
22 Andover, village	*1,196*	*25*							
56 Angelica	612	24							
23 Angelica, village	*1,056*	*21*							
57 Belfast	1,773	22	1						
58 Birdsall	568	7							
59 Bolivar	964	9							
24 Bolivar, village	*1,318*	*15*							
60 Burns	770	6							
25 Canaseraga, village	*754*	*10*							
61 Caneadea	1,354	13							
62 Centerville	781	11							
63 Clarksville	794	18							
64 Cuba	875	11							1
26 Cuba, village	*1,556*	*15*							
65 Friendship	882	10							
27 Friendship, village	*1,218*	*17*							
66 Genesee	1,105	7							1
67 Granger	708	9							
68 Grove	740	12							
69 Hume	1,736	24							2
70 Independence	1,202	17							
71 New Hudson	852	8							
72 Rushford	1,260	14							2
73 Scio	1,196	20							
74 Ward	496	7							
75 Wellsville	1,281	10							
28 Wellsville, village	*4,382*	*77*	*4*				*1*		*1*
76 West Almond	458	6							
77 Willing	993	8							
78 Wirt	758	6							
29 Richburg, village	*451*	*7*							
Total, villages		226	4				1		2
Total, towns		342	3						9

* Same as village

Digitized by Google

District numbers, population (U. S. Census, April 15, 1910), by counties, for each registration district (city, village, and town),

e. g. 101 = Albany City; cities (c.) in **bold face**, villages (v.) in *italics*, towns in Roman type

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Broncho-pneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
1 ALBANY COUNTY	**173,666**	**238**	**44**	**227**	**11**	**93**	**165**	**123**	**1,994**
01 Albany, city	**100,253**	**243**	**34**	**159**	**7**	**40**	**96**	**48**	**1,297**
02 Cohoes, city	**24,709**	**35**	**3**	**24**	**3**	**19**	**25**	**39**	**226**
03 Watervliet, city	**15,074**	**26**	**1**	**17**	.....	**17**	**14**	**15**	**124**
50 Berne	1,753	1	.....	.....	.....	1	4	.....	27
51 Bethlehem	4,413	1	1	4	.....	1	4	1	40
52 Coeymans	4,252	4	.....	1	.....	1	2	2	27
23 Ravena	.....	*1*	.....	.....	.....	.....	.....	.....	1
53 Colonie	8,385	10	.....	9	1	5	8	17	85
54 Green Island*	.....	.....	.....	.....	.....	.....	.....	.....	.....
20 Green Island, village	*4,737*	*4*	*1*	*4*	.....	*6*	*7*	*8*	*35*
55 Guilderland	2,659	2	1	3	.....	.....	.....	3	37
21 Altamont, village	*674*	.....	.....	.....	.....	.....	*1*	.....	*6*
56 Knox	1,007	.....	1	2	.....	.....	1	.....	16
57 New Scotland	2,301	1	1	1	.....	2	1	.....	28
22 Voorheesville, village	*533*	*1*	.....	*1*	.....	.....	.....	.....	*6*
58 Rensselaerville	1,609	1	.....	1	.....	1	1	.....	22
59 Westerlo	1,307	3	1	1	.....	.....	1	.....	17
Total, villages		6	1	5	.....	6	8	8	48
Total, towns		23	5	22	1	11	22	23	300
2 ALLEGANY COUNTY	**41,412**	**11**	**4**	**43**	**1**	**10**	**25**	**9**	**446**
50 Alfred	831	.....	.....	1	.....	.....	.....	.....	9
20 Alfred, village	*759*	.....	.....	*2*	.....	*1*	*2*	.....	*11*
51 Allen	598	.....	.....	.....	.....	.....	.....	.....	4
52 Alma	973	.....	.....	.....	.....	.....	.....	1	9
53 Almond	1,297	.....	.....	1	.....	1	.....	1	13
54 Amity	977	.....	.....	.....	.....	.....	.....	.....	12
21 Belmont, village	*1,094*	.....	.....	2	.....	.....	1	.....	19
55 Andover	854	.....	.....	.....	.....	.....	.....	.....	6
22 Andover, village	*1,136*	*1*	*2*	*2*	.....	.....	.....	*1*	*19*
56 Angelica	612	.....	.....	1	.....	.....	.....	.....	23
23 Angelica, village	*1,056*	.....	.....	.....	.....	.....	*1*	.....	*20*
57 Belfast	1,773	.....	.....	2	.....	.....	1	.....	18
58 Birdsall	568	.....	1	.....	.....	.....	2	.....	4
59 Bolivar	964	.....	.....	.....	.....	1	.....	.....	8
24 Bolivar, village	*1,318*	.....	.....	*3*	.....	.....	*1*	.....	*11*
60 Burns	770	.....	.....	.....	.....	.....	.....	.....	6
25 Canaseraga, village	*754*	.....	.....	.....	.....	.....	.....	.....	*10*
61 Caneadea	1,354	.....	.....	1	.....	.....	3	.....	9
62 Centerville	781	.....	.....	1	.....	1	1	.....	8
63 Clarksville	794	1	.....	1	.....	.....	1	.....	15
64 Cuba	875	1	.....	.....	.....	1	.....	.....	8
26 Cuba, village	*1,556*	.....	.....	.....	.....	.....	.....	.....	*15*
65 Friendship	882	.....	.....	.....	.....	.....	.....	.....	10
27 Friendship, village	*1,218*	.....	.....	*2*	.....	.....	.....	.....	*15*
66 Genesee	1,105	.....	.....	1	.....	.....	.....	.....	5
67 Granger	708	.....	.....	1	.....	.....	.....	.....	8
68 Grove	740	1	.....	2	.....	.....	1	1	7
69 Hume	1,736	.....	.....	1	.....	.....	.....	.....	21
70 Independence	1,202	.....	.....	.....	.....	.....	1	1	15
71 New Hudson	852	1	.....	1	.....	.....	1	.....	5
72 Rushford	1,260	1	.....	3	.....	1	1	.....	6
73 Scio	1,196	1	.....	1	.....	1	2	1	14
74 Ward	496	.....	.....	.....	.....	.....	1	.....	6
75 Wellsville	1,281	1	.....	2	.....	.....	.....	.....	7
28 Wellsville, village	*4,382*	*3*	*1*	*11*	*1*	*3*	*2*	*2*	*48*
76 West Almond	458	.....	.....	.....	.....	.....	.....	.....	6
77 Willing	993	.....	.....	.....	.....	.....	.....	1	7
78 Wirt	758	.....	.....	1	.....	.....	.....	2	3
29 Richburg, village	*451*	.....	.....	.....	.....	.....	1	.....	*6*
Total, villages		4	3	22	.....	4	8	3	171
Total, towns		7	1	21	.....	6	17	6	272

Digitized by Google

Table 18 — STATE OF NEW YORK: *District numbers, popul'n*

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
3 BROOME COUNTY	**78,809**	**1,583**	**10**	**1**	**19**	**5**	**6**	**12**	**2**
01 Binghamton, city	**48,443**	**1,017**	**7**	**1**	**15**	**3**	**4**	**9**	**10**
50 Barker	948	13							1
51 Binghamton	675	7							
52 Chenango	1,237	12					1		
53 Colesville	2,415	37			1				
54 Conklin	850	15						1	
55 Dickinson	395	52							
20 Port Dickinson, village	*437*	*7*							
56 Fenton	1,050	16							
57 Kirkwood	852	12							
58 Lisle	1,100	19							
21 Lisle, village	*329*	*8*							
59 Maine	1,363	17							
60 Nanticoke	536	6							
61 Sanford	1,836	29			1				
22 Deposit, village (pt. 1,144)		*36*							
[*22* Deposit, village (1855)*	*1,864*]	*40*							
62 Triangle	856	11							
23 Whitney Point, village	*744*	*13*			*1*				
63 Union	1,759	24					1		
24 Endicott, village	*2,408*	*52*	*1*		*1*	*2*		*1*	
25 Lestershire, village	*3,775*	*93*						*1*	
26 Union, village	*1,544*	*25*	*1*						
64 Vestal	1,618	22							
65 Windsor	1,858	28							
27 Windsor, village	*637*	*12*	*1*						
Binghamton State Hospital (*301*)		194							
Total, villages		246	3		2	2		2	4
Total, towns		320			2		2	1	
4 CATTARAUGUS COUNTY	**65,919**	**943**	**4**		**4**	**2**	**7**	**3**	**13**
01 Olean, city	**14,743**	**251**	**1**		**2**		**3**	**1**	**1**
02 Salamanca, city	**6,322**	**103**						**1**	**3**
50 Allegany	2,112	20							
20 Allegany, village	*1,286*	*13*							
51 Ashford	1,557	18				1		1	
52 Carrolton	832	8							
21 Limestone, village	*684*	*6*					1		
53 Cold Spring	898	11							
54 Conewango	913	13							1
22 East Randolph, village (78)	*593*	13	1						
55 Dayton	1,710	24							
56 East Otto	1,093	19							
57 Elko	475	4							1
58 Ellicottville	1,082	7							
23 Ellicottville, village	*985*	14							
59 Farmersville	948	15							
60 Franklinville	1,095	11							
24 Franklinville, village	*1,568*	*32*							
61 Freedom	1,159	18							
62 Great Valley	2,236	12							
63 Hinsdale	1,125	15							
64 Humphrey	626	6							
65 Ischua	803	6							2
66 Leon	859	13							
67 Little Valley	537	6							
25 Little Valley, village	*1,368*	*27*	1						
68 Lyndon	603	9							
69 Machias	1,529	38							
70 Mansfield	912	9							
71 Napoli	741	14							3
72 New Albion	824	7							2
26 Cattaraugus, village	*1,165*	*22*							
73 Olean	885	11					1		
74 Otto	922	13			1				

* Village located in two counties — Broome and Delaware.

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Continued)

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Broncho-pneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
3 BROOME COUNTY	**78,809**	**85**	**20**	**80**	**2**	**41**	**84**	**64**	**1,124**
01 Binghamton, city	**48,443**	**66**	**14**	**47**	**1**	**30**	**54**	**45**	**711**
50 Barker	948			1					11
51 Binghamton	675			1					6
52 Chenango	1,237			1			1		7
53 Colesville	2,415	1	1	1			3	2	27
54 Conklin	850	1		2			2		8
55 Dickinson	395	8				2		1	41
20 Port Dickinson, village	*437*	*1*							*6*
56 Fenton	1,050	1		1			3	1	10
57 Kirkwood	852			1					11
58 Lisle	1,100					1			18
21 Lisle, village	*329*			1					7
59 Maine	1,363						1		15
60 Nanticoke	536					1			5
61 Sanford	1,836			3			1	1	23
22 Deposit, village (pt. 1,144)		*2*		*4*			*3*		*26*
[22* *Deposit, village (1255)*	*1,864*]	*2*		*4*			*3*		*30*
62 Triangle	856			2					9
23 Whitney Point, village	*744*			*3*					*8*
63 Union	1,759			2		1	2		18
24 Endicott, village	*2,408*	*1*	*1*	*2*		*2*		*9*	*32*
25 Lestershire, village	*3,775*	*4*	*4*	*5*	*1*	*1*	*6*	*2*	*67*
26 Union, village	*1,544*			*1*		*1*	*2*	*1*	*19*
64 Vestal	1,618			1		1	3	1	16
65 Windsor	1,858			1		1	2	1	23
27 Windsor, village	*637*						*1*		*10*
Binghamton State Hospital (*301*)		17	1	13		12	17		134
Total, villages		8	5	16	1	4	12	12	175
Total, towns		11	1	17		7	18	7	248
4 CATTARAUGUS COUNTY	**65,919**	**49**	**9**	**68**	**1**	**17**	**47**	**22**	**697**
01 Olean, city	**14,743**	**12**	**4**	**14**	**1**	**7**	**15**	**8**	**182**
02 Salamanca, city	**6,322**	**6**	**1**	**2**		**2**	**2**	**4**	**82**
50 Allegany	2,112	1		2			1		16
20 Allegany, village	*1,286*	*1*		*1*		*1*	*1*		*9*
51 Ashford	1,557			2					14
52 Carrolton	832						1		7
21 Limestone, village	*684*								*5*
53 Cold Spring	898			1			1		9
54 Conewango	913					1			11
22 East Randolph, village (78)	*593*	*2*							*10*
55 Dayton	1,710	4		4					16
56 East Otto	1,093			3			1		15
57 Elko	475								4
58 Ellicottville	1,082		1	1					4
23 Ellicottville, village	*986*	*1*		*1*			*3*		*9*
59 Farmersville	948			3					12
60 Franklinville	1,095			1			1	2	7
24 Franklinville, village	*1,568*	*2*		*3*		*2*	*4*	*1*	*20*
61 Freedom	1,159	1		2			1	1	13
62 Great Valley	2,236						1	1	10
63 Hinsdale	1,125	1				1	2		11
64 Humphrey	626	1		1					4
65 Ischua	803			2					4
66 Leon	859	1		1		1		1	7
67 Little Valley	537	1							5
25 Little Valley, village	*1,368*	*2*		*3*			*1*		*20*
68 Lyndon	603			1					8
69 Machias	1,529			3			1	1	33
70 Mansfield	912						1		8
71 Napoli	741	2							9
72 New Albion	824								5
26 Cattaraugus, village	*1,166*	*1*					*1*		20
73 Olean	885	2		1			2		5
74 Otto	922		1	2			2		7

Total in *italics* for entire village in both counties.

Digitized by Google

Table 18 — STATE OF NEW YORK: *District numbers, popula*

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
CATTARAUGUS COUNTY — (*Continued*)									
75 Perrysburg	1,184	13							
76 Persia	381	3							
(*27*) *Gowanda, village* (*pt. 1,349*)		28							
[*27* Gowanda, village* (*1458*)	*2,012*]	*32*							
77 Portville	1,613	17				1	2		
28 Portville, village	*758*	*4*							
78 Randolph (22)	780	12	1						
29 Randolph, village	*1,298*	*17*			1				
79 Red House	781	14							
80 Salamanca	438	0							
81 South Valley	584	6							
82 Yorkshire	1,563	21							
Total, villages		176	2		1		1		
Total, towns		413	1		1	2	3	1	9
5 CAYUGA COUNTY	**67,106**	**1,050**	**9**		**4**	**2**	**1**	**6**	
01 Auburn county	**34,668**	**554**	**4**		**3**	**2**	**1**	**4**	**1**
50 Aurelius	1,089	13							
20 Cayuga, village	*348*	*6*							
51 Brutus	877	15							
21 Weedsport, village	*1,344*	*25*							
52 Cato	1,131	14			1				
22 Cato, village (*56*)	*374*	*2*							
23 Meridian, village	*326*	*5*							
53 Conquest	1,103	17							
54 Fleming	1,017	17							
55 Genoa	1,866	27							
56 Ira (22)	1,189	27							1
57 Ledyard	1,226	9							
24 Aurora, village	*493*	*3*							
58 Locke	864	10						1	1
59 Mentz	824	12							
25 Port Byron, village	*1,085*	*17*	*1*						*1*
60 Montezuma	941	9							
61 Moravia	836	14							
26 Moravia, village	*1,324*	*27*	*1*						*1*
62 Niles	1,209	17	1						
63 Owasco	1,393	23							
64 Scipio	1,470	15	1						
65 Sempronius	756	13							
66 Sennett	1,423	47							
67 Springport	649	11							
27 Union Springs, village	*798*	*14*							
68 Sterling	1,788	24							
28 Fairhaven, village	*571*	*7*						*1*	
69 Summer Hill	613	6							
70 Throop	960	11							
71 Venice	1,343	19	1						
72 Victory	1,208	20							1
Auburn Prison (*501*)		11							
Total, villages		106	2					1	2
Total, towns		390	3		1			1	3
6 CHAUTAUQUA COUNTY	**105,126**	**1,459**	**15**		**6**	**4**	**12**	**10**	**13**
01 Dunkirk, city	**17,221**	**226**	**8**		**4**	**2**	**9**	**4**	**2**
02 Jamestown, city	**31,297**	**427**	**3**		**2**		**2**	**4**	**1**
50 Arkwright	843	8							
51 Busti	1,572	26							
20 Lakewood, village	*564*	20							
52 Carroll	1,564	19							1
53 Charlotte	783	3							
21 Sinclairville, village (*62*)	*542*	12							
54 Chautauqua	2,393	58						1	
22 Mayville, village	*1,182*	14							

* Village located in two counties — Cattaraugus and Erie.

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Continued)

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Broncho-pneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
CATTARAUGUS COUNTY—(*Continued*)									
75 Perrysburg	1,184	3	.....	3	.....	.....	.....	1	6
76 Persia	381	.....	.....	.....	.....	.....	.....	.....	3
(27) Gowanda, village (p. 1,349)		3	1	1	.....	.....	3	.....	20
[27 Gowanda, village (1458)*	*2,018]*	.....	.....	*2*	.....	*1*	*3*	.....	.....
77 Portville	1,613	.....	.....	.....	.....	1	.....	.....	13
28 Portville, village	*758*	.....	*1*	*1*	.....	.....	.....	.....	*2*
78 Randolph (22)	780	.....	.....	3	.....	.....	.....	.....	8
29 Randolph, village	*1,298*	*1*	.....	*2*	.....	.....	.....	.....	*13*
79 Red House	781	.....	.....	2	.....	1	.....	1	10
80 Salamanca	438	.....	.....	.....	.....	.....	.....	.....	.....
81 South Valley	584	.....	.....	.....	.....	.....	.....	.....	6
82 Yorkshire	1,563	1	.....	2	.....	.....	2	1	15
Total, villages		13	2	12	.....	3	13	1	128
Total, towns		18	2	40	.....	5	17	9	305
5 CAYUGA COUNTY	67,106	56	12	75	2	16	45	42	773
01 Auburn, city	34,668	39	6	37	2	6	25	35	389
50 Aurelius	1,089	1	1	3	.....	1	.....	.....	7
20 Cayuga, village	*348*	.....	.....	*1*	.....	.....	.....	.....	*5*
51 Brutus	877	1	.....	1	.....	.....	.....	.....	13
21 Weedsport, village	*1,344*	.....	.....	*2*	.....	.....	*1*	.....	*22*
52 Cato	1,131	.....	.....	.....	.....	.....	1	1	11
22 Cato, village (56)	*374*	.....	.....	.....	.....	.....	.....	.....	2
23 Meridian, village	*326*	.....	.....	*1*	.....	.....	.....	.....	*4*
53 Conquest	1,103	1	.....	2	.....	.....	2	.....	12
54 Fleming	1,017	.....	.....	2	.....	2	2	.....	11
55 Genoa	1,866	.....	2	3	.....	.....	2	.....	20
56 Ira (22)	1,189	.....	.....	1	.....	1	1	.....	23
57 Ledyard	1,226	.....	.....	2	.....	.....	.....	.....	7
24 Aurora, village	*493*	.....	.....	.....	.....	.....	.....	.....	*3*
58 Locke	864	.....	.....	.....	.....	.....	.....	.....	8
59 Mentz	824	.....	.....	1	.....	1	2	1	7
25 Port Byron, village	*1,085*	*1*	.....	*1*	.....	*1*	.....	.....	*12*
60 Montezuma	941	1	.....	2	.....	.....	.....	.....	6
61 Moravia	836	.....	.....	.....	.....	.....	1	.....	13
26 Moravia, village	*1,324*	*2*	*1*	*2*	.....	.....	.....	.....	*20*
62 Niles	1,209	.....	.....	.....	.....	.....	.....	.....	16
63 Owasco	1,393	.....	1	5	.....	.....	.....	.....	17
64 Scipio	1,470	3	.....	.....	.....	.....	.....	.....	11
65 Sempronius	756	1	.....	2	.....	.....	.....	.....	10
66 Sennett	1,423	2	1	1	.....	.....	4	2	37
67 Springport	649	1	.....	.....	.....	1	.....	.....	9
27 *Union Springs, village*	*798*	1	.....	1	.....	1	.....	.....	11
68 Sterling	1,788	.....	.....	1	.....	.....	1	.....	22
28 Fairhaven, village	*571*	1	.....	.....	.....	1	.....	1	3
69 Summer Hill	613	.....	.....	1	.....	.....	.....	.....	5
70 Throop	960	.....	.....	2	.....	.....	1	.....	8
71 Venice	1,343	.....	.....	.....	.....	.....	2	3	13
72 Victory	1,208	1	.....	1	.....	1	.....	.....	16
Auburn Prison (*501*)		3	.....	1	.....	.....	.....	.....	7
Total, villages		5	1	8	.....	3	1	1	82
Total, towns		12	5	30	.....	7	19	7	302
6 CHAUTAUQUA COUNTY	105,126	74	11	117	1	23	55	35	1,083
01 Dunkirk, city	17,221	12	3	8	.....	3	8	14	159
02 Jamestown, city	31,297	26	2	48	.....	8	20	11	300
50 Arkwright	843	1	.....	.....	.....	.....	.....	.....	7
51 Busti	1,572	2	.....	1	.....	.....	1	.....	22
20 Lakewood, village	*564*	.....	.....	4	.....	2	.....	.....	14
52 Carroll	1,564	.....	.....	2	.....	.....	1	.....	15
53 Charlotte	783	.....	.....	.....	.....	.....	.....	.....	3
21 Sinclairville, village (82)	*542*	1	1	.....	.....	1	.....	.....	9
54 Chautauqua	2,393	7	.....	4	.....	.....	.....	.....	46
22 Mayville, village	*1,122*	1	.....	1	.....	1	.....	.....	11

Total in *italics* for entire village in both counties.

Digitized by Google

Table 18 — STATE OF NEW YORK: ***District numbers, popula***

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
CHAUTAUQUA COUNTY — (*Continued*)									
34 Chautauqua, village		12							
55 Cherry Creek	774	11	1				1		1
23 Cherry Creek, village	*606*	10							
56 Clymer	1,164	14							
57 Dunkirk	429	3							
58 Ellery	1,695	18							
33 Bemus Point, village		4							
59 Ellicott	1,611	25	1						1
24 Celoron, village	*619*	5							
25 Falconer, village	*2,141*	37							1
60 Ellington	1,235	20							
61 French Creek	882	13							1
62 Gerry (21)	1,088	21							2
63 Hanover	2,437	24							
26 Forestville, village	*721*	6							
27 Silver Creek, village	*2,512*	33	1			1			1
64 Harmony	2,510	34							1
28 Panama, village	*337*	8							
65 Kiantone	520	2							
66 Mina	1,033	13							
67 Poland	1,447	23							
68 Pomfret	2,024	27				1			
29 Fredonia, village	*5,285*	73	1						
69 Portland	1,877	23							
30 Brocton, village	*1,181*	17							
70 Ripley	2,239	34						1	
71 Sheridan	1,888	11							
72 Sherman	732	14							
31 Sherman, village	*836*	8							
73 Stockton	1,781	27							
74 Villenova	1,140	12							
75 Westfield	1,496	27							
32 Westfield, village	*2,985*	27							1
Total, villages		286	2			1			3
Total, towns		510	2			1	1	2	7
7 CHEMUNG COUNTY	54,662	890	6		2		1	6	7
01 Elmira, city	37,176	579	5		1		1	6	5
50 Ashland	337	4							
20 Wellsburg, village	*452*	11							1
51 Baldwin	476	5							
52 Big Flats	1,535	24							
53 Catlin	870	9							
54 Chemung	1,328	23							
55 Elmira	1,113	25							
21 Elmira Heights, village (57)	*2,732*	44			1				
56 Erin	889	12							
57 Horseheads (21)	1,358	55							1
22 Horseheads, village	*1,778*	27	1						
58 Southport	2,034	30							
59 Van Etten	658	12							
23 Van Etten, village	476	4							
60 Veteran	1,470	26							
Elmira State Reformatory (*701*)		5							
Total, villages		86	1		1				1
Total, towns		225							1
8 CHENANGO COUNTY	35,575	556	3	1				1	2
50 Afton	1,051	18							
20 Afton, village	*729*	11							
51 Bainbridge	858	6							
21 Bainbridge, village	*1,159*	19							

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Continued)

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Broncho-pneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
CHAUTAUQUA COUNTY —(*Continued*)									
54 *Chautauqua, village*			1	3					8
55 Cherry Creek	774			2			1		5
23 *Cherry Creek, village*	606		1	2					7
56 Clymer	1,164	1		1			1		11
57 Dunkirk	429			1					2
58 Ellery	1,695			1				2	15
33 *Bemus Point, village*									4
59 Ellicott	1,611	4				1	2		16
24 *Celoron, village*	619	1		1				1	2
25 *Falconer, village*	2,141	1		2	1	1	2		29
60 Ellington	1,235			1			1	1	17
61 French Creek	882							1	11
62 Gerry (21)	1,088			2			1		16
63 Hanover	2,437	2		2		1	3		16
26 *Forestville, village*	721						1		5
27 *Silver Creek, village*	2,512	5	1	3		1	2	1	17
64 Harmony	2,510	1		3				1	28
28 *Panama, village*	337			2					6
65 Kiantone	520								2
66 Mina	1,033			1					12
67 Poland	1,447			4			1		18
68 Pomfret	2,024			2					24
29 *Fredonia, village*	5,285	4		7			2	2	57
69 Portland	1,877	1				1	1		20
30 *Brocton, village*	1,181	1					1		15
70 Ripley	2,239			1					32
71 Sheridan	1,888			2		2	1		6
72 Sherman	732	1		1		1	2		9
31 *Sherman, village*	836		1	1					6
73 Stockton	1,781			1					26
74 Villenova	1,140	2					1		9
75 Westfield	1,496			2			2	1	22
32 *Westfield, village*	2,985		1	1					24
Total, villages		14	6	27	1	6	8	4	214
Total, towns		22		34		6	19	6	410
7 CHEMUNG COUNTY	54,662	55	10	64	2	23	43	24	642
01 Elmira, city	37,176	27	7	41	2	14	28	15	427
50 Ashland	337			1					3
20 *Wellsburg, village*	452			2					8
51 Baldwin	476								5
52 Big Flats	1,535	3		3			3		15
53 Catlin	870			1					8
54 Chemung	1,328	1		2		1		1	18
55 Elmira	1,113	8					3	1	13
21 *Elmira Heights, village* (57)	2,752	1		1		3	3	2	33
56 Erin	889	1		1			1		9
57 Horseheads (21)	1,358	7	3	3		1	2	1	37
22 *Horseheads, village*	1,778	2		5				1	18
58 Southport	2,034	2		2		2	2	2	20
59 Van Etten	658	1		1			3		7
23 *Van Etten, village*	476			1					3
60 Veteran	1,470	2				2	3	1	18
Elmira State Reformatory (701)		1							4
Total, villages		3		9		3	3	3	62
Total towns		25	3	14		6	17	1	153
8 CHENANGO COUNTY	35,575	23	4	25		12	39	5	441
50 Afton	1,051	1		2				1	14
20 *Afton, village*	729			3					8
51 Bainbridge	858			1			2		3
21 *Bainbridge, village*	1,159	1							18

Digitized by Google

Table 18 — STATE OF NEW YORK: *District numbers, popula*

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
CHENANGO COUNTY — (*Continued*)									
52 Columbus	838	6	1						
53 Coventry	764	8							
54 German	371	4							
55 Greene	1,717	23							
22 Greene, village	*1,275*	20							
56 Guilford	2,013	22							
57 Lincklaen	570	13	1	1					1
58 McDonough	813	7							
59 New Berlin	1,214	15							1
23 New Berlin, village	*1,114*	20							
60 North Norwich	691	3							
61 Norwich	1,138	16							
24 Norwich, village	*7,422*	140	1						
62 Otselic	1,104	18							
63 Oxford	1,360	43							
25 Oxford, village	*1,654*	23							
64 Pharsalia	657	9							
65 Pitcher	664	15							
66 Plymouth	913	16						1	
67 Preston	649	19							
68 Sherburne	1,461	13							
26 Earlville, village	(*pt. 262*)								
[*26* Earlville, village (2656)*	*874*]	*9*					*1*		
27 Sherburne, village	*960*	19							
69 Smithville	949	15							
70 Smyrna	948	14							
28 Smyrna, village	*257*	1							
Woman's Relief Corps Home (*863*)		24							
Total, villages		253	1						
Total, towns		303	2	1				1	2
9 CLINTON COUNTY	48,220	635	3		1	1	3	4	5
01 Plattsburg, city	11,138	193	1		1			1	1
50 Altona	2,383	24							
51 Ausable	999	13						1	
20 Keeseville, village	(*pt 1,046*)	6							
[*20† Keeseville, v. (1550)*	*1,835*]	*24*							
52 Beekmantown	1,866	27							2
53 Black Brook	1,959	20							
54 Champlain	1,719	17						1	1
21 Champlain, village	*1,280*	27							1
22 Rouses Point, village	*1,638*	18							
55 Chazy	2,973	48	1						
56 Clinton	1,598	22							
57 Dannemora	3,153	21					2		
23 Dannemora, village (62)	*1,146*	33							
58 Ellenburgh	3,079	27				1		1	1
59 Mooers	2,603	31							2
24 Mooers, village	*560*	8							
60 Peru	2,236	29							
61 Plattsburg	2,362	25							
62 Saranac (23)	2,904	30					1		
63 Schuyler Falls	1,588	16	1						
Dannemora State Hospital (*923*)		5							
Total, villages		92							1
Total, towns		350	2			1	3	3	6
10 COLUMBIA COUNTY	43,658	702	7	1	1	7	2	6	7
01 Hudson	11,417	230	4	1		7		1	2
50 Ancram	1,137	15							1
51 Austerlitz	811	10							
52 Canaan	1,167	21							
53 Chatham	2,282	34							

* Village of Earlville located in two counties—Chenango and Madison. Total in *italics* for Essex. Total in *italics* for entire village in both counties.

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Continued)

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Broncho-pneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
CHENANGO COUNTY — *Continued)*									
52 Columbus	838							1	4
53 Coventry	764								8
54 German	371								4
55 Greene	1,717	1		1					21
22 Greene, village	*1,275*			1			1		18
56 Guilford	2,013	1	1			2	2	1	15
57 Lincklaen	570						1		9
58 McDonough	813						1		6
59 New Berlin	1,214			1			5		8
23 New Berlin, village	*1,114*	2		1			3		14
60 North Norwich	691								3
61 Norwich	1,138		1	2					13
24 Norwich, village	*7,422*	8		4		3	11	2	111
62 Otselic	1,104			1			4		13
63 Oxford	1,360	1		2		1	1		38
25 Oxford, village	*1,654*	3					2		18
64 Pharsalia	657								9
65 Pitcher	664					1	1		13
66 Plymouth	913	1	2	1		3			8
67 Preston	649	2							17
68 Sherburne	1,461			2			3		8
26 Earlville, village	*(pt. 262)*								
[26† *Earlville, village (2656)*	*874*]						*1*		7
27 Sherburne, village	*960*			2			1		16
69 Smithville	949	1				2	1		11
70 Smyrna	948	1		1					12
28 Smyrna, village	*257*								1
Woman's Relief Corps Home (*863*)				2		1	1		20
Total, villages		14		11		3	18	2	204
Total, towns		9	4	14		9	21	3	237
9 CLINTON COUNTY	**48,230**	**41**	**9**	**22**	**1**	**16**	**39**	**29**	**458**
01 Plattsburg, city	**11,138**	**11**	**3**	**7**		**3**	**13**	**7**	**145**
50 Altona	2,383			1		2	3		18
51 Ausable	999		1						11
20 Keeseville, village	*(pt. 1,046)*						1		5
[20* *Keeseville, village (1550)*	*1,835*]			*3*			*2*		*19*
52 Beekmantown	1,866					1	6	3	15
53 Black Brook	1,959	1		2		1	1		15
54 Champlain	1,719	2				1	1		11
21 Champlain, village	*1,280*						2		24
22 Rouses Point, village	*1,638*	1				1	1		15
55 Chazy	2,973	2		2			3	3	37
56 Clinton	1,598	1		3			1	1	16
57 Dannemora	3,153		2			1	1	4	11
23 Dannemora, village (62)	*1,146*	15	2	1		1	1		13
58 Ellenburgh	3,079	1		1		1			21
59 Mooers	2,603	2		2			2	1	22
24 Mooers, village	*560*	1				1			6
60 Peru	2,236	2		1			1	4	21
61 Plattsburg	2,362			1		1	1	3	19
62 Saranac (23)	2,904	2		1	1		1		24
63 Schuyler Falls	1,588		1			2		3	9
Dannemora State Hospital (*923*)		2							3
Total, villages		17	2	1		3	5		63
Total, towns		13	4	14	1	10	21	22	250
10 COLUMBIA COUNTY	**43,658**	**48**	**7**	**38**	**1**	**14**	**36**	**18**	**509**
01 Hudson	**11,417**	**19**	**3**	**16**	**1**	**2**	**13**	**10**	**151**
50 Ancram	1,137	1		1			1		11
51 Austerlitz	811						3		7
52 Canaan	1,167					1	2		18
53 Chatham	2,282	5		1			1		27

entire village in both counties. † Village of Keeseville located in two counties — Clinton and

Digitized by Google

Table 18 — STATE OF NEW YORK: *District numbers, popula*

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
COLUMBIA COUNTY — (*Continued*)									
20 Chatham, village (59)	*2,251*	28						1	
54 Claverack	2,301	35			1				
21 Philmont, village	*1,813*	24	1					1	
55 Clermont	800	8							
56 Copake	1,283	14							
57 Gallatin	720	9							
58 Germantown	1,649	19					1		1
59 Ghent (20)	1,682	43							1
60 Greenport	1,639	25	1				1		
61 Hillsdale	1,504	20	1						1
62 Kinderhook	1,030	12							
22 Kinderhook, village	*698*	7							1
23 Valatie, village	*1,219*	29							
63 Livingston	1,620	21							
64 New Lebanon	1,378	20						1	
65 Stockport	2,506	29							
66 Stuyvesant	1,980	30						2	
67 Taghkanic	771	19							
State Training School for Girls, Hudson (*1001*)		1							
Total, villages		88	1					2	1
Total, towns		384	2		1		2	3	4
11 CORTLAND COUNTY	**29,249**	**476**	**3**			**2**	**2**	**2**	**7**
01 Cortland, city	**11,504**	**217**	**1**					**1**	**2**
50 Cincinnatus	965	13							
51 Cortlandville	2,165	40	1			1	1		1
20 Homer, village (55)	*2,695*	37					1		
21 McGrawville, village	*931*	15				1			
52 Cuyler	881	13							
53 Freetown	551	8							
54 Harford	623	8							
55 Homer (20)	1,255	17							
56 Lapeer	475	5							
57 Marathon	510	4							
22 Marathon, village	*1,079*	17							1
58 Preble	757	12							1
59 Scott	718	12							
60 Solon	518	9							1
61 Taylor	711	10	1						1
62 Truxton	1,132	14						1	
63 Virgil	1,136	12							
64 Willett	643	13							
Total, villages		69				1	1		1
Total, towns		190	2			1	1	1	4
12 DELAWARE COUNTY	**45,575**	**676**	**6**		**13**		**1**	**1**	**5**
50 Andes	1,593	18							
20 Andes, village	*414*	12			1				
51 Bovina	912	11							
52 Colchester	3,193	46	2		1				1
53 Davenport	1,427	23			1				
54 Delhi	1,079	18	1						1
21 Delhi, village	*1,736*	26							
55 Deposit	921	13							
*22 *Deposit, village (0361)*	*720*	4							
56 Franklin	1,930	30			3				
23 Franklin, village	*473*	6							
57 Hamden	1,373	25							
58 Hancock	3,862	44	2		1				
24 Hancock, village	*1,329*	21							2
59 Harpersfield	955	16							

*See Deposit, village, Broome

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Continued)

DISTRICT (Population, April 15, 1910)	Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Bronchopneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
COLUMBIA COUNTY — (*Continued*)								
20 *Chatham, village (59)* *2,251*	3	.....	1	.....	2	.....	.....	21
54 Claverack 2,301	2	.....	2	.....	.....	1	1	28
21 *Philmont, village* *1,813*	3	.....	1	.....	1	.....	.....	17
55 Clermont 800	.....	.....	.....	.....	.....	.....	.....	8
56 Copake 1,283	1	.....	1	.....	1	1	.....	10
57 Gallatin 720	.....	1	.....	.....	.....	3	1	4
58 Germantown 1,649	.....	.....	1	.....	.....	.....	.....	16
59 Ghent (20) 1,682	1	.....	.....	.....	.....	2	.....	39
60 Greenport 1,639	1	.....	1	.....	.....	2	1	18
61 Hillsdale 1,504	1	.....	2	.....	3	3	.....	9
62 Kinderhook 1,030	1	2	.....	.....	.....	1	1	7
22 *Kinderhook, village* *698*	.....	.....	.....	.....	.....	.....	.....	6
23 *Valatie, village* *1,219*	2	.....	3	.....	1	.....	1	22
63 Livingston 1,620	2	.....	4	.....	1	2	.....	12
64 New Lebanon 1,378	3	.....	2	.....	1	.....	.....	13
65 Stockport 2,506	2	.....	2	.....	.....	.....	2	23
66 Stuyvesant 1,980	.....	1	.....	.....	1	1	1	24
67 Taghkanic 771	1	.....	.....	.....	.....	.....	.....	18
State Training School for Girls, Hudson (*1001*)	1	.....	.....	.....	.....	.....	.....	.....
Total, villages	8	.....	5	.....	4	.....	1	66
Total, towns	21	4	17	.....	8	23	7	292
11 CORTLAND COUNTY 29,249	20	8	30	.....	7	24	14	357
01 Cortland, city 11,504	9	7	12	.....	1	15	10	159
50 Cincinnatus 965	.....	.....	2	.....	1	.....	.....	10
51 Cortlandville 2,165	1	.....	4	.....	1	1	1	28
20 *Homer, village (55)* *2,695*	1	.....	2	.....	1	3	1	28
21 *McGrawville, village* *931*	2	.....	.....	.....	.....	.....	.....	12
52 Cuyler 881	.....	1	2	.....	.....	.....	.....	10
53 Freetown 551	1	.....	1	.....	.....	.....	.....	6
54 Harford 623	.....	.....	.....	.....	.....	.....	.....	8
55 Homer (20) 1,255	1	.....	.....	.....	.....	2	.....	14
56 Lapeer 475	.....	.....	1	.....	.....	.....	.....	4
57 Marathon 510	1	.....	.....	.....	.....	1	.....	2
22 *Marathon, village* *1,079*	2	.....	1	.....	.....	.....	1	12
58 Preble 757	.....	.....	1	.....	.....	.....	.....	10
59 Scott 718	.....	.....	2	.....	.....	.....	.....	10
60 Solon 518	1	.....	.....	.....	.....	.....	.....	7
61 Taylor 711	1	.....	.....	.....	1	.....	1	5
62 Truxton 1,132	.....	.....	2	.....	2	1	.....	8
63 Virgil 1,136	.....	.....	.....	.....	.....	.....	.....	12
64 Willett 643	.....	.....	.....	.....	.....	1	.....	12
Total villages	5	.....	3	.....	1	3	1	53
Total, towns	6	1	15	.....	5	6	8	145
12 DELAWARE COUNTY 45,575	26	4	62	3	16	24	12	503
50 Andes 1,593	1	.....	.....	.....	.....	.....	1	16
20 *Andes, village* *414*	1	.....	.....	.....	1	1	.....	8
51 Bovina 912	.....	.....	1	.....	1	.....	.....	9
52 Colchester 3,193	2	.....	5	.....	1	.....	2	32
53 Davenport 1,427	.....	.....	2	.....	.....	1	.....	19
54 Delhi 1,079	.....	.....	.....	.....	.....	.....	.....	16
21 *Delhi, village* *1,756*	.....	.....	3	.....	.....	1	.....	22
55 Deposit 921	.....	.....	2	.....	.....	.....	.....	11
22 **Deposit, village (0361)* *720*	.....	.....	.....	.....	.....	.....	.....	4
56 Franklin 1,930	1	1	3	.....	2	1	1	18
23 *Franklin, village* *473*	1	.....	1	.....	.....	.....	.....	4
57 Hamden 1,373	1	.....	5	.....	2	.....	.....	17
58 Hancock 3,862	4	.....	3	.....	1	3	.....	30
24 *Hancock, village* *1,329*	2	1	4	.....	1	2	.....	9
59 Harpersfield 955	1	.....	1	.....	.....	2	.....	12

county for complete total.

Digitized by Google

Table 18 — STATE OF NEW YORK: ***District numbers, popula***

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
DELAWARE COUNTY — (*Continued*)									
25 Stamford, village (66)	*973*	16							
60 Kortright	1,481	22			2				
61 Masonville	1,053	15							
62 Meredith	1,393	21							
63 Middletown	3,133	33							
30 Fleischmanns, village		8							
26 Margaretville, village	*669*	17			1				
64 Roxbury	2,164	40						1	
65 Sidney	1,641	23							
27 Sidney, village	*2,507*	44	1						
66 Stamford (25)	885	11			1				
28 Hobart, village	*544*	11							
67 Tompkins	2,127	22							
68 Walton	1,985	29			1				
29 Walton, village	*3,103*	51			1		1		1
Total, villages		216	1		3		1		3
Total, towns		460	5		10			1	2
13 DUTCHESS COUNTY	**87,661**	**1,803**	**5**	**2**	**17**	**8**	**1**	**5**	**8**
01 Beacon	**10,629**	**202**	**1**		**1**			**1**	**2**
02 Poughkeepsie	**27,936**	**516**	**1**		**13**	**2**	**1**	**2**	**2**
50 Amenia	2,123	33						1	
51 Beekman	827	5							
52 Clinton	1,278	21							
53 Dover	2,016	19							1
54 East Fishkill	2,226	34							
55 Fishkill	2,713	35							
20 Fishkill, village	*516*	*8*							
56 Hyde Park	3,019	36			1	1			
57 LaGrange	1,350	17							
58 Milan	893	15							1
59 North East	1,252	14							
21 Millerton, village	*858*	*12*							
60 Pawling	1,079	18				2			
22 Pawling, village	*848*	*19*							
61 Pine Plains	1,420	14							
62 Pleasant Valley	931	14							
23 Pleasant Valley, village	*427*	*8*							
63 Poughkeepsie	7,702	457	2	2	2	1			1
24 Wappingers Falls, vil. (68)	*3,195*	*63*							
64 Red Hook	1,711	17							
25 Red Hook, village	*960*	*12*							
26 Tivoli, village	*1,054*	*20*							
65 Rhinebeck	1,984	35				1			
27 Rhinebeck, village	*1,548*	*33*	*1*						
66 Stanford	1,520	28							
67 Union Vale	1,097	13				1			
68 Wappinger (24)	1,542	20						1	1
69 Washington	1,891	53							
28 Millbrook, village	*1,136*	*12*							
Hudson River State Hospital (*1563*)		291	1	1	1				
Matteawan State Hospital (*1302*)		46							
Total, villages		187	1						
Total, towns		898	2	2	3	6		2	4
14 ERIE COUNTY	**528,985**	**8,563**	**82**	**1**	**14**	**27**	**106**	**71**	**27**
01 Buffalo	**423,715**	**7,037**	**73**	**1**	**11**	**26**	**76**	**66**	**13**
02 Lackawanna	**14,549**	**323**	**1**				**16**	**2**	**1**
03 Tonawanda	**8,290**	**101**	**4**				**1**	**1**	
50 Alden	1,920	13	1			1			
20 Alden, village	*828*	*11*							
51 Amherst	3,524	38					1		
21 Williamsville, village	*1,105*	*14*							
52 Aurora	1,698	16							

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Continued)

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Bronchopneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
DELAWARE COUNTY—(*Continued*)									
25 *Stamford, village (66)*	*973*	1		3					12
60 Kortright	1,481			1			1	1	17
61 Masonville	1,053			3			1	1	10
62 Meredith	1,393	2	1		1		1		16
63 Middletown	3,133			3	2			1	27
30 *Fleischmanns, village*				1			1	1	5
26 *Margaretville, village*	669			2		1	1		12
64 Roxbury	2,164	3		1		3	2	1	29
65 Sidney	1,641	1		2				1	19
27 *Sidney, village*	*2,507*	1		3		1			38
66 Stamford (25)	885			1		1	1		7
28 *Hobart, village*	*544*			3					8
67 Tompkins	2,127	1		2		1	1		17
68 Walton	1,985		1	2			3	1	21
29 *Walton, village*	*3,105*	3		5			1	1	38
Total, villages		9	1	25		4	7	2	160
Total, towns		17	3	37	3	12	17	10	343
13 DUTCHESS COUNTY	87,661	178	34	92	2	78	85	45	1,243
01 Beacon	10,629	32	3	7		4	3	4	144
02 Poughkeepsie	27,936	24	9	30	2	15	35	20	360
50 Amenia	2,123	1		2			1	1	27
51 Beekman	827								5
52 Clinton	1,278	1		2		2			16
53 Dover	2,016						2		16
54 East Fishkill	2,226	1		2		1	1	2	27
55 Fishkill	2,713	2		1		2	3	4	23
20 *Fishkill, village*	*516*	2				*1*		*1*	*4*
56 Hyde Park	3,019	5		3			1		25
57 LaGrange	1,350						1		16
58 Milan	893					1			13
59 North East	1,252	1		1		1			11
21 *Millerton, village*	*858*	*3*							*9*
60 Pawling	1,079	1	2	2				1	10
22 *Pawling, village*	*848*			2		*1*		*1*	*15*
61 Pine Plains	1,420			1					13
62 Pleasant Valley	931			1					13
23 *Pleasant Valley, village*	*487*								*8*
63 Poughkeepsie	7,702	91	13	14		45	19	1	266
24 *Wappingers Falls, vil. (68)*	*3,195*	*4*	*3*	2		2	7	7	*38*
64 Red Hook	1,711			2					15
25 *Red Hook, village*	*960*	2							*10*
26 *Tivoli, village*	*1,034*	*1*		*5*			*1*		*13*
65 Rhinebeck	1,984	1	1	2		3	3		24
27 *Rhinebeck, village*	*1,548*	2	2	*5*					*23*
66 Stanford	1,520	1		2			1		24
67 Union Vale	1,097			2					10
68 Wappinger (24)	1,542			2			2		14
69 Washington	1,891	3		1			5	1	43
28 *Millbrook, village*	*1,136*		*1*	*1*				2	*8*
Hudson River State Hospital (*1363*)		51	12	4		37	11		173
Matteawan State Hospital (*1303*)		14	1			3			28
Total, villages		14	6	15		4	8	11	128
Total, towns		108	16	40		55	39	10	611
14 ERIE COUNTY	528,985	724	106	507	11	433	401	678	5,373
01 Buffalo	423,715	649	99	432	8	346	325	525	4,388
02 Lackawanna	14,549	5		4	1	38	25	86	144
03 Tonawanda	8,290	6	2	7		2	4	5	69
50 Alden	1,920						2	2	7
20 *Alden, village*	*828*			*1*					*10*
51 Amherst	3,524	1		5				1	30
21 *Williamsville, village*	*1,105*	2		*1*					*11*
52 Aurora	1,698					1	1	1	13

Digitized by Google

Table 18 — STATE OF NEW YORK: *District numbers, popula*

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
ERIE COUNTY — (*Continued*)									
22 East Aurora, village	*2,781*	*43*	*1*						
53 Boston	1,535	10							
54 Brant	1,884	22			1			1	
23 Farnham, village	*540*	*4*							
55 Cheektowaga	5,641	90			1				
24 Depew, village (67)	*3,921*	*68*					*6*		
25 Sloan, village	*1,359*	*6*							
56 Clarence	2,991	35					3		1
57 Colden	1,303	12					1		
58 Collins	3,905	85							
26 Gowanda, village (0476)*	*(pt. 663)*	*4*							
59 Concord	2,145	25	1						2
27 Springville, village	*2,246*	*31*	*1*						*3*
60 East Hamburg	2,636	26							
61 Eden	2,526	33							
62 Elma	2,130	27						1	
63 Evans	2,226	31			1				1
28 Angola, village	*898*	*18*							
64 Grand Island	914	9							
65 Hamburg	3,076	47					1		
29 Blasdell, village	*849*	*11*					*1*		
30 Hamburg, village	*2,134*	*25*							
66 Holland	1,468	15							
67 Lancaster (24)	2,128	26							
31 Lancaster, village	*4,364*	*61*					*2*		
68 Marilla	1,382	18							
69 Newstead	2,083	23							2
32 Akron, village	*1,677*	*28*							*3*
70 North Collins	2,424	13							
34 North Collins, village		*18*							
71 Sardinia	1,644	24							
72 Tonawanda	1,155	17							
33 Kenmore, village	*1,020*	*6*							
73 Wales	1,203	14							
74 West Seneca	4,605	91							2
Buffalo State Hospital (*1401*)		157							
Gowanda State Hospital (*1458*)		57							
Total, villages		342	2				9		6
Total, towns		760	2		3	1	6	2	8
15 ESSEX COUNTY	33,458	529	3					6	6
50 Chesterfield	1,040	19							
20† Keeseville, village (0961)	*(pt. 789)*	*18*							
51 Crown Point	1,690	31						1	
52 Elizabethtown	603	9							
21 Elizabethtown, village	*505*	*8*							
53 Essex	1,276	33							3
54 Jay	2,231	35							
55 Keene	1,227	12							
56 Lewis	937	19							1
57 Minerva	848	8							
58 Moriah	4,488	75	1					2	
22 Port Henry, village	*2,266*	*35*						*3*	
59 Newcomb	509	5							
60 North Elba	1,195	18							
23 Lake Placid, village	*1,682*	*18*							
24 Saranac Lake, village	*(pt. 1,019)*	*26*							
[24‡ Saranac Lake, vil. (62, 1663)	*4,983]*	*193*					*2*		
61 North Hudson	434	6							1
62 St. Armand	297	6							
25 Bloomingdale, village	*382*	*4*							
(26) Saranac Lake, vil. (60, 1663)	*(pt. 67)*	0							
63 Schroon	1,013	21							
64 Ticonderoga	2,465	44							

* See Gowanda village, Cattaraugus County for complete total
† See Keeseville, village, Clinton county for complete total.

Digitized by Google

tion (U. S. Census, April 15, 1910), *deaths, etc.— (Continued)*

DISTRICT (Population, April 15, 1910)	Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Bronchopneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
ERIE COUNTY — (*Continued*)								
2 *East Aurora, village* 2,781	*1*	.....	*7*	.....	.....	*3*	*1*	30
3 Boston 1,535	1	.....	.....	.....	.....	3	.....	6
4 Brant 1,884	3	.....	2	.....	1	2	.....	12
5 *Farnham, village* *540*	.....	.....	.....	.....	*1*	.....	.....	*3*
5 Cheektowaga 5,641	6	.....	2	.....	7	4	10	60
4 *Depew, village (67)* *3,921*	*3*	*2*	*3*	.....	*4*	*1*	*16*	*33*
5 *Sloan, village* *1,259*	.....	.....	.....	.....	.....	*1*	*1*	*4*
6 Clarence 2,991	.....	.....	.....	.....	.....	1	1	29
7 Colden 1,303	1	.....	.....	.....	1	3	.....	6
8 Collins 3,905	11	.....	10	.....	3	2	1	58
6* *Gowanda, village (0476) (pt. 665)* ...	.....	.....	*1*	.....	*1*	.....	.....	*2*
9 Concord 2,145	.....	.....	2	.....	.....	2	1	17
7 *Springville, village* *2,246*	*2*	.....	*1*	.....	.....	*1*	.....	*23*
0 East Hamburg 2,636	1	.....	1	.....	2	.....	.....	22
1 Eden 2,526	1	1	1	.....	3	.....	.....	27
2 Elma 2,130	.....	.....	4	.....	.....	2	.....	20
3 Evans 2,226	.....	.....	2	.....	1	3	1	22
8 *Angola, village* *898*	*1*	.....	.....	*1*	*1*	*3*	*1*	*11*
4 Grand Island 914	.....	.....	.....	.....	.....	1	.....	8
5 Hamburg 3,076	3	.....	.....	.....	5	4	4	30
9 *Blasdell, village* *849*	.....	.....	.....	.....	.....	.....	.....	*10*
0 *Hamburg, village* *2,134*	*5*	.....	*1*	.....	*2*	.....	*1*	*16*
6 Holland 1,468	.....	.....	.....	.....	1	.....	.....	14
7 Lancaster (24) 2,128	1	.....	1	.....	.....	1	4	19
1 *Lancaster, village* *4,564*	*8*	*1*	*3*	.....	*1*	*1*	*7*	*38*
8 Marilla 1,382	3	.....	.....	.....	.....	1	.....	14
9 Newstead 2,083	.....	.....	1	.....	2	.....	1	17
2 *Akron, village* *1,677*	.....	.....	*1*	.....	.....	.....	*1*	*23*
0 North Collins 2,424	1	.....	2	.....	.....	1	.....	9
4 *North Collins, village*	*1*	.....	.....	.....	.....	*1*	*1*	*9*
1 Sardinia 1,644	1	.....	1	.....	5	1	1	15
2 Tonawanda 1,155	1	.....	2	.....	.....	.....	2	12
5 *Kenmore, village* *1,020*	.....	.....	*1*	.....	.....	.....	.....	*5*
3 Wales 1,203	2	1	1	1	.....	1	.....	8
4 West Seneca 4,605	4	.....	7	.....	5	1	3	69
Buffalo State Hospital (*1401*)	52	3	6	.....	41	17	.....	38
Iowanda State Hospital (*1458*)	9	.....	6	.....	2	1	.....	39
Total, villages	23	3	20	1	10	11	29	228
Total, towns	41	2	44	1	37	36	33	544
5 ESSEX COUNTY 33,458	59	8	38	.....	9	18	11	371
0 Chesterfield 1,040	1	1	2	.....	1	.....	.....	14
0† *Keeseville, village (0951) (pt. 789)*	.....	.....	*3*	.....	.....	*1*	.....	*14*
1 Crown Point 1,690	1	.....	1	.....	2	.....	2	24
2 Elizabethtown 603	.....	1	1	.....	.....	2	.....	5
1 *Elizabethtown, village* *505*	*1*	.....	*1*	.....	.....	.....	.....	*6*
3 Essex 1,276	4	.....	1	.....	.....	.....	.....	25
4 Jay 2,231	2	.....	4	.....	2	1	1	25
5 Keene 1,227	1	.....	1	.....	1	.....	.....	9
6 Lewis 937	1	.....	1	.....	.....	1	.....	15
7 Minerva 848	.....	.....	1	.....	.....	1	.....	6
8 Moriah 4,488	3	.....	4	.....	1	3	2	59
2 *Port Henry, village* *2,266*	*1*	.....	*2*	.....	.....	.....	*1*	*28*
9 Newcomb 509	.....	.....	.....	.....	.....	.....	.....	5
0 North Elba 1,195	5	.....	1	.....	.....	2	1	9
9 *Lake Placid, village* *1,682*	*3*	.....	*1*	.....	.....	.....	.....	*14*
6 *Saranac Lake, village* ..... (*pt. 1,019*)	*18*	.....	.....	.....	.....	*1*	*1*	*6*
4‡ *Saranac Lake, vil. (62, 1663)* 4,985	*131*	.....	*4*	.....	*2*	*1*	.....	*53*
1 North Hudson 434	.....	.....	.....	.....	.....	.....	.....	5
2 St. Armand 297	5	1	.....	.....	.....	.....	.....	.....
5 *Bloomingdale, village* *382*	*1*	.....	.....	.....	.....	.....	.....	*3*
6) *Saranac Lake, vil. (60, 1663)* (*pt. 67*)	.....	.....	.....	.....	.....	.....	.....	.....
3 Schroon 1,013	2	2	1	.....	.....	.....	.....	16
1 Ticonderoga 2,465	1	.....	7	.....	1	1	1	33

‡ Village of Saranac Lake, located in two counties — Essex and Franklin. Total in italics r entire village.

Digitized by Google

Table 18 — STATE OF NEW YORK: *District numbers, popula*

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
ESSEX COUNTY — (*Continued*)									
27 Ticonderoga, village	*2,475*	*22*							
65 Westport	1,175	11	1						
28 Westport, village	*692*	*14*							1
66 Willsboro	1,580	23	1						
67 Wilmington	573	9							
Raybrook Hospital for Incipient Tuberculosis	(1560)	5							
Total, villages		145						2	1
Total, towns		384	3					3	5
16 FRANKLIN COUNTY	45,717	765	5			4	17	2	9
50 Altamont	1,624	30					1		1
20 Tupper Lake, village	*3,067*	*34*					*2*	*1*	
51 Bangor	1,946	22							
52 Belmont	2,341	20							
53 Bombay	2,588	41					1		
54 Brandon	872	12							
55 Brighton	741	13							
56 Burke	1,772	26							
57 Chateaugay	1,795	16					1		
21 Chateaugay, village	*1,045*	*28*							
58 Constable	1,323	21							1
59 Dickinson	1,609	16						1	3
60 Duane	300	0							
61 Fort Covington	1,151	14							1
22 Fort Covington, village	*877*	*14*					*1*		
62 Franklin	1,447	14							
63 Harrietstown	856	11							
23 Saranac Lake, village (1560, 1562)*	*(pt. 3,897)*	*167*					*2*		
64 Malone	3,687	66	1			4	5		
24 Malone, village	*6,487*	*128*	*3*				*2*		1
65 Moira	2,346	24							
66 Santa Clara	675	3							
67 Waverly	2,170	28	1						1
68 Westville	1,121	17					2		1
Total, villages		371	3				7	1	
Total, towns		394	2			4	10	1	5
17 FULTON COUNTY	44,534	700	6	1		2	2	6	7
01 Gloversville, city	20,642	331	4	1		1	1	4	
02 Johnstown, city	10,447	133	1			1	1	2	2
50 Bleecker	500	4							2
51 Broadalbin	1,845	35							
52 Caroga	441	6							
53 Ephratah	1,312	23							1
54 Johnstown	2,511	56	1						1
55 Mayfield	1,475	25							
20 Mayfield, village	*590*	*8*							1
56 Northampton	1,098	25							
21 Northville, village	*1,130*	*30*							
57 Oppenheim	1,066	7							
(22) Dolgeville, village	*(pt. 175)*	0							
[22† Dolgeville, village (2158)	*2,685]*	*29*	*1*		*1*			*1*	1
58 Perth	695	8							
59 Stratford	607	9							
Total, villages		38							
Total, towns		198	1						5

* See Saranac Lake village, Essex county for complete to[illegible]

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Continued)

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Broncho-pneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
ESSEX COUNTY — (*Continued*)									
27 Ticonderoga, village	*2,475*	.....	.....	*3*	.....	*1*	.....	.....	*18*
65 Westport	1,175	1	1	.....	.....	.....	1	1	6
28 Westport, village	*692*	*1*	.....	.....	.....	.....	*3*	.....	*9*
66 Willsboro	1,580	6	2	1	.....	.....	.....	1	12
67 Wilmington	573	1	.....	2	.....	.....	1	.....	5
Raybrook Hospital for Incipient Tuberculosis		5	.....	.....	.....	.....	.....	.....	.....
Total, villages		25	.....	10	.....	1	5	2	98
Total, towns		34	8	28	.....	8	13	9	273
16 FRANKLIN COUNTY	45,717	169	13	42	.....	17	43	37	407
50 Altamont	1,624	4	.....	.....	.....	1	2	2	19
20 Tupper Lake, village	*3,067*	*1*	.....	.....	.....	*1*	*3*	*5*	*21*
51 Bangor	1,946	1	.....	3	.....	1	1	1	15
52 Belmont	2,341	3	.....	1	.....	.....	3	2	11
53 Bombay	2,588	4	.....	1	.....	.....	4	4	27
54 Brandon	872	.....	.....	2	.....	1	.....	.....	9
55 Brighton	741	4	.....	1	.....	1	.....	.....	7
56 Burke	1,772	3	1	2	.....	2	1	2	15
57 Chateaugay	1,795	.....	1	2	.....	.....	1	.....	11
21 Chateaugay, village	*1,045*	*5*	.....	*2*	.....	.....	*2*	*1*	*18*
58 Constable	1,323	3	2	3	.....	.....	.....	.....	12
59 Dickinson	1,609	.....	1	.....	.....	.....	.....	.....	11
60 Duane	300	.....	.....	.....	.....	.....	.....	.....	.....
61 Fort Covington	1,151	3	1	3	.....	.....	.....	2	4
22 Fort Covington, village	*877*	*1*	.....	*1*	.....	.....	*1*	.....	*10*
62 Franklin	1,447	1	.....	.....	.....	2	1	2	8
63 Harriettstown	856	5	.....	1	.....	.....	.....	.....	5
23 Saranac Lake, vil. (1560, 1562)*	*(pt. 3,897)*	*113*	.....	*4*	.....	*2*	*1*	.....	*45*
64 Malone	3,687	7	1	3	.....	1	3	4	37
24 Malone, village	*6,467*	*8*	*4*	*9*	.....	*1*	*12*	*11*	*78*
65 Moira	2,346	.....	.....	3	.....	1	4	.....	15
66 Santa Clara	675	.....	.....	.....	.....	1	.....	.....	2
67 Waverly	2,170	1	1	1	.....	2	3	.....	18
68 Westville	1,121	2	1	.....	.....	.....	1	1	9
Total, villages		128	4	16	.....	4	19	17	172
Total, towns		41	9	26	.....	13	24	20	235
17 FULTON COUNTY	44,534	46	5	46	.....	17	41	13	508
01 Gloversville, city	20,642	24	2	20	.....	7	16	5	246
02 Johnstown, city	10,447	5	.....	12	.....	5	8	1	95
50 Bleecker	500	.....	.....	.....	.....	.....	1	.....	3
51 Broadalbin	1,845	4	.....	1	.....	3	2	1	22
52 Caroga	441	.....	.....	1	.....	.....	.....	.....	5
53 Ephratah	1,312	3	.....	.....	.....	.....	1	.....	19
54 Johnstown	2,511	5	1	10	.....	.....	1	1	36
55 Mayfield	1,475	.....	.....	1	.....	.....	4	.....	19
20 Mayfield, village	*590*	.....	.....	.....	.....	.....	.....	.....	*8*
56 Northampton	1,098	3	1	.....	.....	.....	2	1	17
21 Northville, village	*1,130*	.....	.....	.....	.....	*1*	*5*	*2*	*22*
57 Oppenheim	1,066	1	.....	.....	.....	.....	.....	.....	6
(22) Dolgeville, village	*(pt. 175)*	.....	.....	.....	.....	.....	.....	.....	.....
[22† *Dolgeville, village (2158)*	*2,685]*	*5*	*1*	*2*	.....	*1*	*1*	.....	*15*
58 Perth	695	1	.....	.....	.....	1	.....	.....	6
59 Stratford	607	.....	1	1	.....	.....	1	2	4
Total, villages		.....	.....	.....	.....	1	5	2	30
Total, towns		17	3	14	.....	4	12	5	137

† Village of Dolgeville, located in two counties — Fulton and Herkimer. Total in italics for entire village.

Digitized by Google

Table 18 — STATE OF NEW YORK: *District numbers, popula*

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
18 GENESEE COUNTY	37,615	577	3		1	3	1		14
01 Batavia, village	11,613	217				1			6
50 Alabama	2,231	27							
51 Alexander	1,150	11							1
20 Alexander, village	*212*	*3*							*1*
52 Batavia	2,217	40	1			1	1		1
53 Bergen	994	14							
21 Bergen, village	*637*	*8*							
54 Bethany	1,270	21							
55 Byron	1,520	22							
56 Darien	1,779	15							1
57 Elba	1,033	11							
22 Elba, village	*351*	*10*							*2*
58 Leroy	1,671	17							
23 Leroy, village	*3,771*	*52*	*1*		*1*				*1*
59 Oakfield	879	11							
24 Oakfield, village	*1,236*	*12*							
60 Pavilion	1,462	22	1			1			1
61 Pembroke	1,888	29							
25 Corfu, village	*413*	*12*							
62 Stafford	1,288	23							
State School for the Blind	(1801)	1							
Total, villages		97	1		1				4
Total, towns		263	2			2	1		4
19 GREENE COUNTY	30,214	469	4				4	5	3
50 Ashland	640	5							
51 Athens	764	15					1	1	
20 Athens, village	*1,956*	*35*	*1*					*1*	
52 Cairo	1,841	37							
53 Catskill	3,770	39	1					1	
21 Catskill, village	*5,296*	*75*					*1*	*1*	
54 Coxsackie	1,126	14							1
22 Coxsackie, village	*2,494*	*41*					*1*		
55 Durham	1,475	28							
56 Greenville	1,556	26	1						
57 Halcott	331	4							
58 Hunter	1,631	35	1				1	1	
23 Hunter, village	*408*	*12*							
24 Tannersville, village	*660*	*9*							
59 Jewett	1,057	17							
60 Lexington	1,054	17							
61 New Baltimore	1,936	29							1
62 Prattsville	781	4							
63 Windham	1,438	27							1
Total, villages		172	1				2	2	
Total, towns		297	3				2	3	3
20 HAMILTON COUNTY	4,373	45	1						
50 Arietta	232	6							
51 Benson	143	1							
52 Hope	258	1							
53 Indian Lake	1,045	8							
54 Inlet	197	3							
55 Lake Pleasant	458	8							
56 Long Lake	1,149	5							
57 Morehouse	149	2							
58 Wells	742	11	1						
Total, villages									
Total, towns		45	1						
21 HERKIMER COUNTY	56,356	1,053	6		11	15	8	11	6
01 Little Falls, city	12,273	240	1			3		2	2
50 Columbia	1,071	26			1	1		1	
51 Danube	941	12				1			
52 Fairfield	948	8							

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Continued)

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Broncho-pneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
18 GENESEE COUNTY	37,615	25	3	45	.....	15	29	9	429
01 Batavia, village	11,613	7	....	12	.....	6	11	6	168
50 Alabama	2,231	2	.....	6	.....	1	.....	.....	18
51 Alexander	1,150	.....	.....	.....	.....	.....	2	.....	8
20 Alexander, village	*512*	.....	.....	.....	.....	.....	.....	.....	*2*
52 Batavia	2,217	2	1	1	.....	1	3	.....	28
53 Bergen	994	.....	.....	3	.....	.....	.....	.....	11
21 Bergen, village	*637*	*1*	.....	*2*	.....	*1*	.....	.....	*4*
54 Bethany	1,270	1	.....	3	.....	1	1	.....	15
55 Byron	1,520	1	1	2	.....	.....	.....	1	17
56 Darien	1,779	.....	.....	3	.....	.....	.....	1	10
57 Elba	1,033	1	.....	.....	.....	.....	1	.....	9
22 Elba, village	*351*	.....	.....	.....	.....	.....	.....	.....	*8*
58 Leroy	1,671	.....	.....	2	.....	.....	3	.....	12
23 Leroy, village	*3,771*	*3*	*1*	*2*	.....	.....	*3*	.....	*40*
59 Oakfield	879	1	.....	.....	.....	1	.....	.....	9
24 Oakfield, village	*1,236*	*1*	.....	.....	.....	*1*	.....	*1*	*9*
60 Pavilion	1,462	2	.....	1	.....	1	1	.....	14
61 Pembroke	1,888	2	.....	3	.....	1	.....	.....	23
25 Corfu, village	*415*	.....	.....	.....	.....	.....	*2*	.....	*10*
62 Stafford	1,288	1	.....	5	.....	1	2	.....	14
State School for the Blind	(1801)	.....	.....	.....	.....	.....	.....	.....	1
Total, villages		5	1	4	.....	2	5	1	73
Total, towns		13	2	29	.....	7	13	2	188
19 GREENE COUNTY	30,214	37	3	26	.....	9	24	10	344
50 Ashland	640	.....	.....	.....	.....	.....	1	.....	4
51 Athens	764	.....	.....	2	.....	.....	2	.....	9
20 Athens, village	*1,956*	.....	.....	*3*	.....	.....	*8*	.....	*22*
52 Cairo	1,841	4	.....	1	.....	2	1	2	27
53 Catskill	3,770	7	1	3	.....	.....	.....	2	24
21 Catskill, village	*5,296*	*4*	.....	*4*	.....	*3*	.....	*3*	*59*
54 Coxsackie	1,126	1	.....	2	.....	1	.....	.....	9
22 Coxsackie, village	*2,494*	*2*	*1*	*2*	.....	.....	*6*	*1*	*23*
55 Durham	1,475	3	.....	.....	.....	.....	.....	1	24
56 Greenville	1,556	1	1	1	.....	.....	1	1	20
57 Halcott	331	.....	.....	1	.....	.....	.....	.....	3
58 Hunter	1,631	3	.....	1	.....	2	2	.....	24
23 Hunter, village	*408*	*3*	.....	.....	.....	.....	.....	.....	*9*
24 Tannersville, village	*660*	*1*	.....	.....	.....	.....	.....	.....	*8*
59 Jewett	1,057	1	.....	2	.....	.....	2	.....	12
60 Lexington	1,054	.....	.....	.....	.....	1	.....	.....	16
61 New Baltimore	1,936	.....	.....	2	.....	.....	1	.....	25
62 Prattsville	781	1	.....	1	.....	.....	.....	.....	2
63 Windham	1,438	6	.....	1	.....	.....	.....	.....	19
Total, villages		10	1	9	.....	3	14	4	126
Total, towns		27	2	17	.....	6	10	6	218
20 HAMILTON COUNTY	4,373	6	....	2	.....	1	1	...	34
50 Arietta	232	2	.....	1	.....	.....	.....	.....	3
51 Benson	143	1	.....	.....	.....	.....	.....	.....	.....
52 Hope	258	.....	.....	.....	.....	.....	.....	.....	1
53 Indian Lake	1,045	1	.....	1	.....	.....	.....	.....	6
54 Inlet	197	.....	.....	.....	.....	.....	.....	.....	3
55 Lake Pleasant	458	1	.....	.....	.....	1	.....	.....	6
56 Long Lake	1,149	.....	.....	.....	.....	.....	.....	.....	5
57 Morehouse	149	.....	.....	.....	.....	.....	.....	.....	2
58 Wells	742	1	.....	.....	.....	.....	1	.....	8
Total, villages		.....	.....	.....	.....	.....	.....	.....	.....
Total, towns		6	.....	2	.....	1	1	.....	34
21 HERKIMER COUNTY	56,356	78	8	58	5	32	58	41	716
01 Little Falls, city	12,273	14	1	12	2	5	17	23	158
50 Columbia	1,071	.....	.....	2	.....	.....	.....	1	20
51 Danube	941	.....	.....	.....	.....	.....	.....	1	10
52 Fairfield	948	1	.....	.....	.....	1	2	.....	4

Digitized by Google

Table 18 — STATE OF NEW YORK: *District numbers, popula*

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
HERKIMER COUNTY — (*Continued*)									
80 Middleville, village (59)	*625*	*7*							
53 Frankfort	1,802	48	1						
21 Frankfort, village	*3,303*	*84*	*1*		*8*	*7*			
54 German Flats	1,493	24							
22 Ilion, village	*6,588*	*108*	*1*						
23 Mohawk, village	*2,079*	*36*					*1*	*1*	*1*
55 Herkimer	1,277	63						1	
24 Herkimer, village	*7,520*	*130*					*4*	*4*	
56 Litchfield	803	16							1
57 Little Falls	638	10							
58 Manheim	845	12							
(25) Dolgeville (1757)*	*(pt. 2,510)*	29	1		1			1	1
59 Newport (20)	560	11							
26 Newport, village	*583*	*19*				*1*			
27 Poland, village (62)	*332*	*7*							
60 Norway	642	9				1			
61 Ohio	527	6	1						
62 Russia (27)	1,161	23				1			
28 Cold Brook, village	*358*	*4*							
63 Salisbury	1,468	21					1		
64 Schuyler	1,227	13							
65 Stark	897	11							
66 Warren	1,071	25						1	
67 Webb	785	18							
29 Old Forge, village	*465*	*7*					*2*		
68 Wilmurt	178	2							
69 Winfield	660	10							
30 West Winfield, village	*726*	*14*			*1*				1
Total, villages		445	3		10	8	7	6	3
Total, towns		368	2		1	4	1	3	1
22 JEFFERSON COUNTY	80,382	1,154	6		1		10	9	14
01 Watertown, city	26,730	458	3				1	7	2
50 Adams	1,670	32							1
20 Adams, village	*1,458*	*17*							
51 Alexandria	2,360	20					1	1	1
21 Alexandria Bay, village	*1,899*	*22*	*1*						
52 Antwerp	1,874	24			1				
22 Antwerp, village	*974*	*10*							
53 Brownville	1,234	13							
23 Brownville, village	*854*	*18*							*1*
24 Dexter, village	*1,005*	*18*							
25 Glen Park, village	*522*	*2*							
54 Cape Vincent	1,420	12							1
26 Cape Vincent, village	*1,155*	*10*							
55 Champion	1,311	14							
27 West Carthage, village	*1,393*	*25*					1	1	
56 Clayton	2,087	20	1				1		
28 Clayton, village	*1,941*	*32*							
57 Ellisburg	2,258	25							
29 Belleville, village	*344*	*2*							
30 Ellisburg, village	*702*	*5*							
31 Mannsville, village	*330*	*5*							
58 Henderson	1,145	23					1		1
32 Henderson, village	*340*	*4*							
59 Hounsfield	1,349	13							
33 Sackette Harbor, village	*868*	*8*							
60 Le Ray	2,070	30							
34 Black River, village (67)	*916*	*11*							1
61 Lorraine	940	5							
62 Lyme	1,247	8							
35 Chaumont, village	*708*	*17*							
63 Orleans	2,160	27							1
64 Pamelia	976	25							1
65 Philadelphia	798	8							
36 Philadelphia, village	*842*	*15*							

* See Dolgeville, village, Fulton

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Continued)

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Broncho-pneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
HERKIMER COUNTY — (*Continued*)									
20 Middleville, village (59)	*625*	*1*							*6*
53 Frankfort	1,802	4	1	5	1	1	3		32
21 Frankfort, village	*3,303*	*7*	*1*	*2*		*5*	*7*	*3*	*43*
54 German Flats	1,493	1		4			1	1	17
22 Ilion, village	*6,588*	*10*	*1*	*4*		*1*	*6*		*85*
23 Mohawk, village	*2,079*	*2*		*2*		*4*	*3*	*1*	*21*
55 Herkimer	1,277	9	1	1	1	2		1	47
24 Herkimer, village	*7,520*	*10*	*1*	*9*	*1*	*6*	*6*	*3*	*86*
56 Litchfield	803			2			1		12
57 Little Falls	638			1		1		3	5
58 Manheim	845	1							11
(25) Dolgeville (1757)*	*(pt. 2,510)*	*5*	*1*	*2*		*1*	*1*		*15*
59 Newport (20)	560	1					1		9
26 Newport, village	*583*		*1*	*3*			*3*		*11*
27 Poland, village (62)	*332*	*1*		*1*			*1*		*4*
60 Norway	642	2				1			5
61 Ohio	527								5
62 Russia (27)	1,161	1					2	2	17
28 Cold Brook, village	*358*								*4*
63 Salisbury	1,468	2		2		1		1	14
64 Schuyler	1,227			1					12
65 Stark	897	2							9
66 Warren	1,071	1					1	1	21
67 Webb	785	1		3		1			13
29 Old Forge, village	*465*	*2*				*1*			*2*
68 Wilmurt	178					1			1
69 Winfield	660						2		8
30 West Winfield, village	*726*			*2*			*1*		*9*
Total, villages		38	5	25	1	18	28	7	286
Total, towns		26	2	21	2	9	13	11	272
22 JEFFERSON COUNTY	**80,382**	**60**	**17**	**71**	**4**	**17**	**68**	**36**	**841**
01 Watertown, city	**26,730**	**29**	**11**	**33**		**6**	**27**	**13**	**326**
50 Adams	1,670			3			1	1	26
20 Adams, village	*1,458*	*1*		*1*			*1*	*2*	*12*
51 Alexandria	2,360	1					1	1	14
21 Alexandria Bay, village	*1,899*					*1*	*2*	*2*	*16*
52 Antwerp	1,874			1			1		21
22 Antwerp, village	*974*			*1*					*9*
53 Brownville	1,234	2		1		1	1		8
23 Brownville, village	*854*						*1*		*16*
24 Dexter, village	*1,005*	*2*		*1*		*1*		*1*	*13*
25 Glen Park, village	*522*								*2*
54 Cape Vincent	1,420	1							10
26 Cape Vincent, village	*1,155*		*1*				*1*		*8*
55 Champion	1,311						1	1	12
27 West Carthage, village	*1,393*	*1*	*1*				*2*	*1*	*18*
56 Clayton	2,087	2		2			2		12
28 Clayton, village	*1,941*	*2*		*3*		*1*	*1*	*1*	*24*
57 Ellisburg	2,258	1	1	2			1	1	19
29 Belleville, village	*344*								*2*
30 Ellisburg, village	*702*								*5*
31 Mannsville, village	*330*						*2*		*3*
58 Henderson	1,145	2		4			1		14
32 Henderson, village	*540*			*1*					*3*
59 Hounsfield	1,349	2	1	1			3		6
33 Sacketts Harbor, village	*868*						*1*	*1*	*6*
60 Le Ray	2,070			3		1	1		25
34 Black River, village (67)	*916*						*1*	*1*	*8*
61 Lorraine	940			1					4
62 Lyme	1,247								8
35 Chaumont, village	*708*	*3*		*3*				*1*	*10*
63 Orleans	2,160	2		2			1	1	20
64 Pamelia	976	2		1					21
65 Philadelphia	798			1		1			6
36 Philadelphia, village	*842*			*1*					*14*

county, for complete total.

Digitized by Google

Table 18 — STATE OF NEW YORK: *District numbers, popula*

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
JEFFERSON COUNTY — (*Continued*)									
66 Rodman	1,123	21					2		1
67 Rutland (34)	1,431	19					1		
68 Theresa	1,104	10					1		1
37 Theresa, village	*932*	*18*							*1*
69 Watertown	1,097	10							
70 Wilna	2,655	33							1
38 Carthage, village	*3,563*	*59*					*1*		
71 Worth	597	6	1						
Total, villages		301	1				2	1	3
Total, towns		395	2		1		7	1	9
24 LEWIS COUNTY	24,849	395	6	1	1		2	2	8
50 Croghan	2,373	27	1						
20 Croghan, village (62)	*621*	*12*							*1*
51 Denmark	1,304	18		1					
21 Copenhagen, village	*585*	*15*							
52 Diana	1,358	25	4						
22 Harrisville, village	*921*	*12*							
53 Greig	807	9							
54 Harrisburg	686	6							
55 High Market	409	3							
56 Lewis	801	6						1	
57 Leyden	1,010	19							1
23 Port Leyden, village (59)	*764*	*11*							
58 Lowville	935	30							
24 Lowville, village	*2,940*	*61*			*1*		*1*		
59 Lyonsdale (23)	809	18							
25 Lyons Falls, village (67)	*759*	*11*						1	2
60 Martinsburg	1,546	30					1		
61 Montague	531	6							
62 New Bremen (20)	1,422	21							1
63 Osceola	456	4							
64 Pinckney	806	7							1
65 Turin	681	13							1
26 Turin, village	*549*	*7*							
66 Watson	757	8							1
67 West Turin (25)	812	7							
27 Constableville, village	*407*	*9*	*1*						
Total, villages		138	1		1		1	1	3
Total, towns		257	5	1			1	1	5
25 LIVINGSTON COUNTY	38,037	651	16		2	3	1	3	5
50 Avon	1,379	22							
20 Avon, village	*2,053*	*32*	*1*						
51 Caledonia	958	9							
21 Caledonia, village	*1,290*	*27*						*1*	
52 Conesus	937	16							
53 Geneseo	1,121	33							
22 Geneseo, village	*2,067*	*28*			*1*				*1*
54 Groveland	2,820	147	15						
55 Leicester	1,398	17							
23 Moscow, village	*304*								
56 Lima	1,202	17							
24 Lima, village	*866*	*10*							
57 Livonia	1,996	19							1
25 Livonia, village	*823*	*9*							
58 Mt. Morris	1,222	13							
26 Mt. Morris, village	*2,782*	*57*			*1*			*2*	
59 North Dansville	390	3							
27 Dansville, village	*3,938*	*64*			*1*				
60 Nunda	1,318	18							1
28 Nunda, village	*1,043*	*16*							
61 Ossian	730	8							
62 Portage	1,273	21							

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Continued)

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Broncho-pneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
JEFFERSON COUNTY—(*Continued*)									
66 Rodman	1,123	1				1			16
67 Rutland (34)	1,431	1		2			3		12
68 Theresa	1,104								8
37 Theresa, village	*938*	*1*				*2*	*2*		*12*
69 Watertown	1,097	1	1				1		7
70 Wilna	2,655			2	4	1	4	3	18
38 Carthage, village	*3,563*	*3*	*1*	*1*		*1*	*5*	*5*	*42*
71 Worth	597								5
Total, villages		13	3	12		6	19	15	226
Total, towns		18	3	26	4	5	22	8	289
24 LEWIS COUNTY	24,849	22	3	21	1	6	15	8	299
50 Croghan	2,373	2		1					23
20 Croghan, village (62)	*621*								*11*
51 Denmark	1,304	1						1	15
21 Copenhagen, village	*585*			*1*			*2*		*12*
52 Diana	1,358			4			1	2	14
22 Harrisville, village	*921*			*1*					*11*
53 Greig	807	1				1			7
54 Harrisburg	686			1					5
55 High Market	409	1							2
56 Lewis	801	2							3
57 Leyden	1,010		1	1					16
23 Port Leyden, village (59)	*764*	*1*					*1*		*9*
58 Lowville	935	4		1			2		23
24 Lowville, village	*2,940*	*2*		*6*		*2*	*4*	*1*	*44*
59 Lyonsdale (23)	809	2	2					2	12
25 Lyons Falls, village (67)	*759*								*8*
60 Martinsburg	1,546			2	1	1	1		24
61 Montague	531	1					1		4
62 New Bremen (20)	1,422	2		2				2	14
63 Osceola	456								4
64 Pinckney	806								6
65 Turin	681	1		1			1		9
26 Turin, village	*549*	*1*					*1*		*5*
66 Watson	757	1							6
67 West Turin (25)	812					1	1		5
27 Constableville, village	*407*					*1*			*7*
Total, villages		4		8		3	8	1	107
Total, towns		18	3	13	1	3	7	7	192
25 LIVINGSTON COUNTY	38,037	40	9	31		29	32	15	465
50 Avon	1,379	1		1			2		18
20 Avon, village	*2,055*	*3*	*2*	*2*		*1*	*1*		*22*
51 Caledonia	958	1				1			7
21 Caledonia, village	*1,290*	*1*	*1*	*2*		*2*	*1*	*1*	*18*
52 Conesus	937					1			15
53 Geneseo	1,121	1							32
22 Geneseo, village	*2,067*			*2*			*2*	*1*	*20*
54 Groveland	2,820	21	4	3		12	7	1	84
55 Leicester	1,398	1				1		3	12
23 Moscow, village	*304*								
56 Lima	1,202			3			1	1	12
24 Lima, village	*866*	*1*		*2*					*7*
57 Livonia	1,996			1			1		16
25 Livonia, village	*823*			*1*		*1*	*1*		*6*
58 Mt. Morris	1,222	2							11
26 Mt. Morris, village	*2,782*	*3*	*1*	*2*		*5*	*7*	*5*	*31*
59 North Dansville	390						1		2
27 Dansville, village	*3,938*	*1*		*4*		*1*	*2*	*1*	*54*
60 Nunda	1,318	1		1		1			14
28 Nunda, village	*1,045*	*1*							*15*
61 Ossian	730		1			1			6
62 Portage	1,273			3		2	1	1	14

Digitized by Google

Table 18 — STATE OF NEW YORK: *District numbers, popula*

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
LIVINGSTON COUNTY — (*Continued*)									
63 Sparta	985	11							
64 Springwater	1,808	18					1		
65 West Sparta	772	5							
66 York	2,562	31			2				1
Craig Colony for Epileptics	(2554)	111	13						
Total, villages		243	1			3		3	
Total, towns		408	15		2		1		3
28 MADISON COUNTY	39,289	666	7		6		3	1	7
01 Oneida, city	8,317	167			4		1		
50 Brookfield	2,008	28							
20 Brookfield, village	*395*	*14*							
51 Casenovia	1,826	24							
21 Casenovia, village	*1,361*	*41*			*1*				1
52 DeRuyter	658	10							
22 DeRuyter, village	*538*	*20*							
53 Eaton	1,917	47	3						1
23 Morrisville, village	*500*	*13*	*1*						
54 Fenner	807	21						1	
55 Georgetown	925	16							
56 Hamilton	1,524	18							
(24) Earlville village (0868)*	*(pt. 612)*	*9*					*1*		
25 Hamilton, village	*1,689*	*24*							
57 Lebanon	1,079	17	2						
58 Lenox	1,392	17							
26 Canastota, village	*3,247*	*47*							1
27 Wampsville, village	*212*	*8*							
59 Lincoln	985	12					1		
60 Madison	1,617	16							
28 Madison, village	*309*	*6*							
61 Nelson	1,139	17							
62 Smithfield	880	14							
63 Stockbridge	1,485	15							1
64 Sullivan	2,689	39			1				1
29 Chittenango, village	*678*	*13*	*1*						
Total, villages		188	2		1		1		
Total, towns		311	5		1		1	1	5
27 MONROE COUNTY	283,212	4,489	29	1	15	29	9	33	27
01 Rochester, city	218,149	3,511	26	1	14	25	5	29	15
50 Brighton	3,998	141							
51 Chili	2,071	25							
52 Clarkson	1,549	14							
53 Gates	4,862	52						1	
54 Greece	5,839	101						1	
20 Charlotte, village	*1,958*	*57*	*1*						
55 Hamlin	2,184	32							
56 Henrietta	1,972	19							1
57 Irondequoit	3,526	40							
58 Mendon	1,585	21							
21 Honeoye Falls, village	*1,169*	*14*							1
59 Ogden	2,143	23							
22 Spencerport, village	*1,000*	*16*							
60 Parma	2,327	27	1			1			1
23 Hilton, village	*627*	*6*							
61 Penfield	2,977	37							
62 Perinton	1,981	22						1	1
24 East Rochester, village (65)	*2,398*	*37*			*1*		*2*		1
25 Fairport, village	*3,112*	*54*					*1*		
63 Pittsford (24)	1,504	12							
26 Pittsford, village	*1,205*	*17*				*1*			
64 Riga	1,288	12	1						
27 Churchville, village	*565*	*6*							

* See Earlville, village, Chenango

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Continued)

DISTRICT (Population, April 15, 1910)	Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Bronchopneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
LIVINGSTON COUNTY—(*Continued*)								
63 Sparta..... 985	.....	.....	1	.....	.....	.....	.....	10
64 Springwater..... 1,808	1	.....	.....	.....	.....	2	.....	14
65 West Sparta..... 772	.....	.....	1	.....	.....	.....	.....	4
66 York..... 2,562	1	.....	2	.....	.....	3	1	21
Craig Colony for Epileptics.....(2554)	16	2	1	.....	12	6	.....	61
Total, villages.....	10	4	15	.....	10	14	8	173
Total, towns.....	30	5	16	.....	19	18	7	292
26 MADISON COUNTY..... 32,289	28	5	47	3	7	32	10	509
61 Oneida, city..... 8,317	8	2	12	.....	2	8	6	124
50 Brookfield..... 2,008	3	.....	2	.....	.....	1	.....	22
20 Brookfield, village..... 395	*1*	.....	*1*	.....	.....	*1*	.....	*11*
51 Cazenovia..... 1,826	1	.....	1	.....	.....	1	.....	21
21 Cazenovia, village..... 1,861	*2*	*1*	.....	.....	.....	*4*	*1*	*31*
52 DeRuyter..... 658	.....	.....	1	.....	.....	.....	.....	9
22 DeRuyter, village..... 538	*1*	.....	*1*	.....	.....	.....	.....	*18*
53 Eaton..... 1,917	2	.....	1	.....	2	1	.....	37
23 Morrisville, village..... 500	.....	*1*	.....	.....	.....	.....	.....	*10*
54 Fenner..... 807	1	.....	1	.....	.....	1	.....	17
55 Georgetown..... 925	.....	.....	.....	.....	.....	3	.....	13
56 Hamilton..... 1,524	.....	.....	.....	.....	1	1	.....	16
(24) Earlville, village (0868)..* (*pt. 618*)	.....	.....	.....	.....	.....	1	.....	7
25 Hamilton, village..... 1,689	.....	.....	*6*	.....	.....	*2*	*1*	*15*
57 Lebanon..... 1,079	.....	.....	2	.....	1	.....	.....	12
58 Lenox..... 1,392	1	.....	2	.....	.....	.....	.....	14
26 Canastota, village..... 3,247	*5*	*1*	*2*	*2*	.....	*2*	*1*	*33*
27 Wampsville, village..... 212	.....	.....	.....	.....	.....	.....	.....	*2*
59 Lincoln..... 985	.....	.....	1	.....	.....	2	.....	8
60 Madison..... 1,617	.....	.....	4	.....	.....	1	.....	11
28 Madison, village..... 309	.....	.....	.....	.....	.....	.....	.....	*6*
61 Nelson..... 1,139	1	.....	1	1	.....	.....	.....	14
62 Smithfield..... 880	.....	.....	2	.....	1	.....	.....	9
63 Stockbridge..... 1,485	1	.....	2	.....	.....	.....	.....	11
64 Sullivan..... 2,689	1	.....	3	.....	.....	4	1	28
29 Chittenango, village..... 678	.....	.....	*2*	.....	.....	.....	.....	*10*
Total, villages.....	9	3	12	2	.....	10	3	143
Total, towns.....	11	.....	23	1	5	15	1	242
27 MONROE COUNTY..... 283,212	284	61	307	12	188	210	249	2,939
61 Rochester, city..... 218,149	223	52	257	11	167	170	179	2,337
50 Brighton..... 3,998	121	3	.....	.....	.....	1	1	15
51 Chili..... 2,071	1	.....	3	.....	1	1	1	18
52 Clarkson..... 1,549	1	.....	.....	.....	.....	2	1	10
53 Gates..... 4,862	3	1	1	.....	1	3	8	34
54 Greece..... 5,839	5	.....	4	.....	3	3	3	32
20 Charlotte, village..... 1,938	.....	*1*	*1*	.....	*4*	*1*	*34*	*15*
55 Hamlin..... 2,184	3	.....	2	.....	.....	1	.....	26
56 Henrietta..... 1,972	.....	.....	1	.....	.....	.....	1	16
57 Irondequoit..... 3,526	3	.....	2	.....	.....	.....	3	32
58 Mendon..... 1,585	3	.....	.....	.....	1	1	.....	16
21 *Henoeye Falls, village..... 1,169*	*1*	.....	.....	.....	.....	*1*	.....	*11*
59 Ogden..... 2,143	.....	.....	1	.....	3	1	1	17
22 Spencerport, village..... 1,000	*1*	.....	*1*	.....	.....	*1*	.....	*13*
60 Parma..... 2,327	1	.....	2	.....	1	.....	1	19
23 Hilton, village..... 627	.....	*1*	.....	.....	.....	.....	.....	*5*
61 Penfield..... 2,977	.....	.....	4	.....	1	2	1	20
62 Perinton..... 1,981	1	.....	3	.....	1	3	1	11
24 East Rochester, village (65).. *2,398*	*2*	.....	*2*	.....	.....	*4*	*5*	*30*
25 Fairport, village..... 3,112	.....	*1*	*9*	.....	*1*	*1*	*4*	*37*
63 Pittsford (24)..... 1,504	.....	.....	1	.....	1	.....	.....	10
26 Pittsford, village..... 1,205	*1*	.....	*2*	.....	*1*	*1*	*1*	*10*
64 Riga..... 1,288	.....	.....	.....	.....	.....	.....	.....	11
27 Churchville, village..... 565	.....	.....	.....	.....	*1*	*1*	.....	*7*

county, for complete total.

Digitized by Google

Table 18 — STATE OF NEW YORK: ***District numbers, popula***

	DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
	MONROE COUNTY — (*Continued*)									
65	Rush	2,150	20							
66	Sweden	1,306	15							
28	*Brockport, village*	*3,579*	*59*						*1*	*2*
67	Webster	2,723	45				2	1		
29	*Webster, village*	*1,032*	*18*							
68	Wheatland	2,453	33							1
	Rochester State Hospital (*2701*)		151							
	Total, villages		287	1		1	1	3	1	4
	Total, towns		691	2			3	1	3	4
28	MONTGOMERY COUNTY	57,567	912	9			3	1	7	4
01	Amsterdam, city	31,267	496	5			3		5	2
50	Amsterdam	1,599	23							
20	*Fort Johnson, village*	*600*	*7*							
21	*Hagaman, village*	*875*	*15*							
51	Canajoharie	1,616	21							
22	*Canajoharie, village*	*2,273*	*44*							
52	Charleston	900	15							
53	Florida	1,904	32							
54	Glen	1,190	15							1
23	*Fultonville, village*	*812*	*21*							*1*
55	Minden	1,883	23							
24	*Fort Plain, village*	*2,762*	*46*	*2*					*1*	
56	Mohawk	1,388	25	1						
25	*Fonda, village*	*1,100*	*15*							
57	Palatine	1,388	26	1						
26	*Nelliston, village*	*737*	*11*							
27	*Palatine Bridge, village*	*392*	*4*							
58	Root	1,512	20							
59	St. Johnsville	833	11							
28	*St. Johnsville, village*	*2,536*	*42*					*1*	*1*	
	Total, villages		205	2				1	2	1
	Total, towns		211	2						1
29	NASSAU COUNTY	83,930	1,245	2	2	6	2	11	14	6
50	Hempstead	27,513	303	1	1	2		3	4	2
20	*East Rockaway, village*	*1,200*	*21*					*1*		
21	*Floral Park, village (51)*	*1,225*	*12*							
22	*Freeport, village*	*4,836*	*65*						*2*	
23	*Hempstead, village*	*4,964*	*64*			*2*	*1*			
24	*Lawrence, village*	*1,189*	*8*							
25	*Rockville Center, village*	*3,667*	*46*						*1*	
29	*Cedarhurst, village*		*19*							
30	*Lynbrook, village*		*36*							
51	North Hempstead (21)	15,553	196		1	1		2	2	
26	*Mineola, village*	*1,981*	*153*	*1*			*1*	*5*	*1*	
31	*Long Beach, village*		*11*							
32	*Plandome, village*									
52	Oyster Bay	18,541	264						3	3
27	*Farmingdale, village*	*1,567*	*17*							
28	*Sea Cliff, village*	*1,694*	*33*			*1*			*1*	*1*
	Total, villages		485	1		3	2	6	5	1
	Total, towns		763	1	2	3		5	9	5
31	NIAGARA COUNTY	92,036	1,397	16	1	3	2	13	19	11
01	Lockport, city	17,970	285	2				2	1	4
02	Niagara Falls, city	30,445	546	5		1	1	6	13	3
03	North Tonawanda, city	11,955	162	8		2		4	2	
50	Cambria	1,749	13	1						
51	Hartland	2,517	25							
20	*Middleport, village(58)*	*1,530*	*24*							
52	Lewiston	2,550	30					1	1	
21	*Lewiston, village*	*713*	*17*							

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Continued)

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Broncho-pneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
MONROE COUNTY — (*Continued*)									
65 Rush	2,150	.....	.....	2	.....	.....	2	.....	16
66 Sweden	1,306	1	.....	.....	.....	.....	.....	1	13
28 Brockport, village	*3,579*	*5*	*1*	*5*	*1*	*1*	*3*	.....	*40*
67 Webster	2,723	6	1	1	.....	.....	4	.....	30
29 Webster, village	*1,032*	*1*	.....	*1*	.....	.....	.....	*2*	*14*
68 Wheatland	2,453	1	.....	2	.....	.....	3	1	25
Rochester State Hospital (*8701*)		20	2	3	.....	31	7	.....	88
Total, villages		11	4	21	1	8	13	46	172
Total, towns		150	5	29	.....	13	27	24	430
28 MONTGOMERY COUNTY	57,567	66	12	49	3	19	38	38	662
01 Amsterdam, city	31,267	45	9	22	3	10	23	31	328
50 Amsterdam	1,599	8	.....	1	.....	.....	.....	.....	14
20 Fort Johnson, village	*600*	*1*	.....	.....	.....	*1*	.....	*1*	*4*
21 Hagaman, village	*875*	*3*	*1*	.....	.....	*1*	*1*	.....	*9*
51 Canajoharie	1,616	1	.....	.....	.....	.....	2	1	17
22 Canajoharie, village	*2,273*	*3*	.....	*1*	.....	*1*	.....	.....	*39*
52 Charleston	900	.....	1	.....	.....	1	.....	.....	13
53 Florida	1,904	2	.....	3	.....	1	.....	1	25
54 Glen	1,190	.....	.....	2	.....	.....	1	2	9
23 Fultonville, village	*812*	.....	*1*	*4*	.....	*1*	.....	.....	*14*
55 Minden	1,883	.....	.....	2	.....	1	1	.....	19
24 Fort Plain, village	*2,762*	.....	.....	.....	.....	.....	7	.....	*36*
56 Mohawk	1,388	1	.....	4	.....	1	.....	1	17
25 Fonda, village	*1,100*	.....	.....	*1*	.....	.....	.....	.....	*14*
57 Palatine	1,388	1	.....	1	.....	.....	.....	.....	23
26 Nelliston, village	*737*	.....	.....	*1*	.....	.....	.....	.....	*10*
27 Palatine Bridge, village	*392*	.....	.....	*1*	.....	.....	.....	.....	*3*
58 Root	1,512	.....	.....	3	.....	.....	.....	.....	17
59 St. Johnsville	833	1	.....	1	.....	1	.....	.....	8
28 St. Johnsville, village	*2,536*	.....	.....	*2*	.....	.....	*3*	*1*	*34*
Total, villages		7	2	10	.....	4	11	2	163
Total, towns		14	1	17	.....	5	4	5	162
29 NASSAU COUNTY	83,930	72	18	77	2	41	76	65	854
50 Hempstead	27,513	22	6	16	1	10	17	21	197
20 East Rockaway, village	*1,200*	*1*	.....	*2*	.....	.....	*1*	*1*	*15*
21 Floral Park, village (51)	*1,225*	*1*	*1*	.....	.....	.....	.....	.....	10
22 Freeport, village	*4,836*	*3*	*1*	*5*	.....	.....	*2*	*3*	*49*
23 Hempstead, village	*4,964*	*5*	.....	*4*	.....	*2*	*2*	*5*	*43*
24 Lawrence, village	*1,189*	.....	.....	*1*	.....	.....	*1*	.....	*6*
25 Rockville Center, village	*3,667*	*4*	.....	*4*	.....	*1*	*4*	*1*	*31*
29 Cedarhurst, village	.....	*2*	.....	.....	.....	.....	*1*	.....	*16*
30 Lynbrook, village	.....	*3*	*1*	*3*	.....	*3*	*3*	.....	*23*
51 North Hempstead (21)	15,553	17	4	14	1	12	15	12	115
26 Mineola, village	*1,981*	*1*	*2*	*8*	.....	*6*	*14*	*5*	*109*
31 Long Beach, village	.....	.....	.....	*1*	.....	.....	.....	.....	*10*
32 Plandome, village	.....	.....	.....	.....	.....	.....	.....	.....	.....
52 Oyster Bay	18,541	12	3	15	.....	7	14	16	191
27 Farmingdale, village	*1,567*	*1*	.....	*2*	.....	.....	*1*	*1*	*13*
28 Sea Cliff, village	*1,694*	.....	.....	*2*	.....	.....	*1*	.....	*27*
Total, villages		21	5	32	.....	12	30	16	351
Total, towns		51	13	45	2	29	46	49	503
31 NIAGARA COUNTY	92,036	82	11	84	1	42	63	93	956
01 Lockport, city	17,970	22	1	19	.....	4	13	4	213
02 Niagara Falls, city	30,445	29	8	25	1	23	24	65	342
03 North Tonawanda, city	11,955	6	2	8	.....	8	4	18	100
50 Cambria	1,749	2	.....	2	.....	.....	4	.....	4
51 Hartland	2,517	.....	.....	3	.....	.....	2	.....	20
20 Middleport, village (58)	*1,530*	*3*	.....	*3*	.....	*3*	*1*	.....	*14*
52 Lewiston	2,550	3	.....	.....	.....	.....	1	2	22
21 Lewiston, village	*713*	.....	.....	.....	.....	*1*	*2*	.....	*14*

Digitized by Google

Table 18 — STATE OF NEW YORK: ***District numbers, popula***

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
NIAGARA COUNTY — (*Continued*)									
53 Lockport	2,399	42							
54 Newfane	4,060	60							
55 Niagara	349	2							
22 *La Salle, village*	*1,299*	*20*							
56 Pendleton	1,267	13				1		2	
57 Porter	2,099	23							1
23 *Youngstown, village*	*556*	*7*							*1*
58 Royalton (20)	3,547	44							
59 Somerset	1,819	16							
24 *Barker, village*	*441*	*7*							*2*
60 Wheatfield	1,792	18							
61 Wilson	2,324	29		1					
25 *Wilson, village*	*655*	*14*							
Total, villages		89							3
Total, towns		315	1	1		1	1	3	1
62 ONEIDA COUNTY	154,157	3,038	11	1	34	6	14	34	16
61 Rome, city	20,497	531	5		1		1	2	4
62 Utica, city	74,419	1,547	6		24	4	5	24	6
50 Annsville	1,449	25							
51 Augusta	1,067	23						1	
20 *Oriskany Falls, village*	*892*	*19*					*1*		
52 Ava	563	7							
53 Boonville	1,397	33			1		1		
21 *Boonville, village*	*1,794*	*34*							*2*
54 Bridgewater	587	7							
22 *Bridgewater, village*	*245*	*8*							
55 Camden	1,256	25							1
23 *Camden, village*	*2,170*	*39*					*2*		*2*
56 Deerfield	1,660	31							
57 Florence	936	17							
58 Floyd	697	8							
59 Forestport	593	8							
24 *Forestport, village*	*507*	*14*							
60 Kirkland	3,097	44							
25 *Clinton, village*	*1,236*	*20*							
61 Lee	1,379	22							
62 Marcy	1,301	16							
63 Marshall	1,502	19			3			1	
26 *Waterville, village* (67)	*1,410*	*32*							
64 New Hartford	4,752	46			1			1	
27 *New Hartford, village*	*1,195*	*22*							
65 Paris	2,010	36				1		1	
28 *Clayville, village*	*649*	*12*						*1*	
66 Remsen	692	10							
29 *Remsen, village* (69)	*421*	*8*							
67 Sangerfield (26)	918	8							
68 Steuben	785	5							
69 Trenton (29)	1,472	19							1
30 *Holland Patent, village*	*337*	*7*							
31 *Prospect, village*	*278*	*10*							
32 *Trenton, village*	*289*	*7*							*2*
70 Vernon	2,353	35			1	1			
33 *Oneida Castle, village*	*393*	*5*							
34 *Vernon, village*	*451*	*12*							
71 Verona	3,348	54					1	2	
72 Vienna	1,735	34		1			2		
73 Western	1,355	18							
74 Westmoreland	1,995	35			3				
75 Whitestown	4,732	72						1	
37 *Whitesboro, village*	*2,375*	*37*					*1*		
38 *Yorkville, village*	*691*	*17*							
Rome Custodial Asylum	(*3301*)	101	1					1	
Utica State Hospital	(*3202*)	143							
Total, villages		303					4	1	6
Total, towns		657		1	9	2	4	7	

Digitized by Google

tion (*U. S. Census, April* 15, 1910), *deaths, etc.*— (*Continued*)

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Broncho-pneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
NIAGARA COUNTY — (*Continued*)									
53 Lockport	2,399	3	.....	4	.....	1	1	.....	33
54 Newfane	4,060	2	.....	4	.....	1	6	.....	47
55 Niagara	349	.....	.....	.....	.....	.....	.....	.....	2
22 La Salle, village	*1,299*	*1*	.....	.....	.....	.....	.....	*3*	*16*
56 Pendleton	1,267	1	.....	.....	.....	.....	.....	.....	9
57 Porter	2,099	2	.....	3	.....	.....	2	1	14
23 Youngstown, village	*556*	.....	.....	.....	.....	*1*	.....	.....	*5*
58 Royalton (20)	3,547	6	.....	9	.....	.....	2	.....	27
59 Somerset	1,819	2	.....	1	.....	.....	.....	.....	13
24 Barker, village	*441*	.....	.....	*1*	.....	.....	.....	.....	*4*
60 Wheatfield	1,792	.....	.....	1	.....	.....	1	.....	16
61 Wilson	2,324	.....	.....	.....	.....	.....	.....	.....	28
25 Wilson, village	*655*	.....	.....	*1*	.....	.....	.....	.....	*18*
Total, villages		4	.....	5	.....	5	3	3	68
Total, towns		21	.....	27	.....	2	19	3	235
32 ONEIDA COUNTY	**154,157**	**253**	**36**	**174**	**9**	**123**	**209**	**118**	**1,993**
61 Rome, city	**20,497**	**95**	**3**	**26**	**1**	**18**	**25**	**10**	**340**
62 Utica, city	**74,419**	**111**	**24**	**77**	**7**	**71**	**114**	**78**	**996**
50 Annsville	1,449	.....	.....	1	.....	1	4	.....	19
15 Augusta	1,067	1	.....	3	.....	.....	1	.....	17
20 Oriskany Falls, village	*892*	*1*	.....	*2*	.....	.....	*1*	*2*	*12*
52 Ava	563	.....	.....	.....	.....	.....	.....	1	6
53 Boonville	1,397	3	.....	3	.....	.....	5	1	19
21 Boonville, village	*1,794*	*2*	.....	.....	.....	.....	*2*	.....	*28*
54 Bridgewater	587	.....	.....	.....	.....	.....	.....	2	5
22 Bridgewater, village	*245*	.....	.....	*1*	.....	.....	.....	.....	*7*
55 Camden	1,256	2	.....	1	.....	1	.....	.....	20
23 Camden, village	*2,170*	*1*	*1*	*2*	.....	*3*	*5*	.....	*33*
56 Deerfield	1,660	2	.....	5	.....	1	1	1	21
57 Florence	936	.....	.....	1	.....	.....	2	.....	14
58 Floyd	697	1	.....	3	.....	.....	.....	.....	4
59 Forestport	593	2	.....	.....	.....	.....	.....	1	5
24 Forestport, village	*507*	.....	.....	*1*	.....	.....	*1*	.....	*12*
60 Kirkland	3,097	3	.....	4	.....	3	1	2	31
25 Clinton, village	*1,236*	*1*	.....	.....	.....	*1*	.....	*1*	*17*
61 Lee	1,379	.....	.....	2	.....	.....	1	.....	19
62 Marcy	1,301	2	.....	1	.....	.....	1	.....	12
63 Marshall	1,502	.....	.....	1	.....	1	2	1	10
26 Waterville, village (67)	*1,410*	*1*	*1*	*3*	.....	.....	*1*	*1*	*25*
64 New Hartford	4,752	3	.....	5	1	3	3	5	24
27 New Hartford, village	*1,195*	*3*	*1*	*2*	.....	*1*	*2*	*1*	*12*
65 Paris	2,010	1	.....	7	.....	1	.....	1	24
28 Clayville, village	*649*	.....	.....	.....	.....	*1*	.....	*1*	*9*
66 Remsen	692	.....	1	.....	.....	.....	.....	.....	9
29 Remsen, village (69)	*421*	.....	.....	.....	.....	*1*	.....	.....	7
67 Sangerfield (26)	918	.....	.....	.....	.....	.....	.....	.....	8
68 Steuben	785	.....	.....	1	.....	.....	.....	.....	4
69 Trenton (29)	1,472	1	.....	1	.....	1	.....	1	14
30 Holland Patent, village	*337*	.....	.....	*2*	.....	.....	*1*	.....	*4*
31 Prospect, village	*278*	.....	.....	.....	.....	1	.....	.....	*8*
32 Trenton, village	*289*	.....	.....	.....	.....	.....	*1*	.....	*4*
70 Vernon	2,353	4	.....	8	.....	2	1	.....	23
33 Oneida Castle, village	*393*	.....	.....	*1*	.....	.....	.....	.....	*4*
34 Vernon, village	*451*	.....	.....	*1*	.....	.....	*1*	.....	*10*
71 Verona	3,348	2	1	3	.....	.....	4	1	40
72 Vienna	1,735	1	.....	1	.....	2	1	.....	26
73 Western	1,355	.....	.....	3	.....	2	1	.....	12
74 Westmoreland	1,995	.....	.....	2	.....	.....	5	1	24
75 Whitestown	4,732	7	2	2	.....	6	15	3	36
37 Whitesboro, village	*2,375*	*2*	*1*	*5*	.....	*1*	*7*	*2*	*20*
38 Yorkville, village	*691*	*1*	*1*	.....	.....	*1*	.....	*1*	*13*
Rome Custodial Asylum	(*5201*)	43	3	1	.....	3	9	.....	40
Utica State Hospital	(*3202*)	13	1	5	.....	3	13	.....	108
Total, villages		12	5	18	.....	10	22	9	216
Total, towns		35	4	53	1	24	48	21	446

Digitized by Google

Table 18 — STATE OF NEW YORK: *District numbers, popula*

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
23 ONONDAGA COUNTY	200,298	3,216	21	.....	5	14	30	23	17
01 Syracuse, city	137,249	2,221	15	.....	4	13	21	16	7
50 Camillus	1,879	39	.....	.....	.....	.....	.....	.....	2
20 Camillus, village	*763*	*12*	.....	.....	.....	.....	*1*	.....	....
51 Cicero	2,475	27	1	.....	.....	.....	2	.....	1
52 Clay	2,431	33	.....	.....	.....	.....	.....	1	....
53 DeWitt	3,338	41	.....	.....	.....	.....	.....	.....	....
21 East Syracuse, village	*3,874*	*36*	*1*	.....	.....	.....	.....	*1*	....
22 Eastwood, village	*810*	*16*	.....	.....	.....	.....	.....	.....	....
54 Elbridge	1,540	11	.....	.....	.....	.....	.....	.....	....
23 Elbridge, village	*462*	*9*	.....	.....	.....	.....	.....	.....	....
24 Jordan, village	*978*	*16*	.....	.....	.....	.....	.....	.....	....
55 Fabius	1,213	14	.....	.....	.....	.....	.....	.....	2
25 Fabius, village	*344*	*5*	.....	.....	.....	.....	.....	.....	....
56 Geddes	820	10	.....	.....	.....	.....	.....	.....	....
26 Solvay, village	*5,139*	*45*	*1*	.....	.....	.....	.....	*1*	....
57 LaFayette	1,601	23	.....	.....	.....	.....	.....	.....	....
58 Lysander	2,644	34	1	.....	.....	.....	.....	.....	2
27 Baldwinsville, village (68)	*3,099*	*61*	.....	.....	.....	.....	*1*	.....	*1*
59 Manlius	3,221	28	.....	.....	.....	.....	1	.....	....
28 Fayetteville, village	*1,481*	*22*	.....	.....	.....	.....	.....	*2*	....
34 Minoa, village	.....	*13*	.....	.....	.....	.....	.....	.....	....
29 Manlius, village	*1,314*	*21*	*1*	.....	.....	.....	.....	.....	....
60 Marcellus	1,909	23	.....	.....	1	1	.....	.....	....
30 Marcellus, village	*917*	*9*	.....	.....	.....	.....	.....	.....	....
61 Onondaga	6,340	209	1	.....	.....	.....	2	.....	....
62 Otisco	1,066	11	.....	.....	.....	.....	.....	.....	....
63 Pompey	2,093	31	.....	.....	.....	.....	.....	.....	1
64 Salina	1,820	46	.....	.....	.....	.....	1	.....	....
31 Liverpool, village	*1,388*	*24*	.....	.....	.....	.....	.....	*2*	....
65 Skaneateles	2,659	32	.....	.....	.....	.....	1	.....	....
32 Skaneateles, village	*1,615*	*35*	.....	.....	.....	.....	.....	.....	*1*
66 Spafford	1,064	11	.....	.....	.....	.....	.....	.....	....
67 Tully	835	17	.....	.....	.....	.....	.....	.....	....
33 Tully, village	*551*	*9*	.....	.....	.....	.....	.....	.....	....
68 Van Buren (27)	1,966	22	.....	.....	.....	.....	.....	.....	....
State Institution for Feeble-Minded Children, Syracuse	*(3301)*	6	.....	.....	.....	.....	.....	.....	....
Total, villages		333	3	.....	.....	.....	2	6	2
Totals, towns		662	3	.....	1	1	7	1	8
24 ONTARIO COUNTY	52,286	799	5	.....	.....	9	3	6	16
01 Canandaigua, city	7,217	146	.....	.....	.....	2	2	1	3
52 Geneva, city	12,446	235	4	.....	.....	7	1	4	1
50 Bristol	1,247	11	.....	.....	.....	.....	.....	.....	1
51 Canadice	559	8	.....	.....	.....	.....	.....	.....	1
52 Canandaigua	2,188	20	.....	.....	.....	.....	.....	.....	....
53 East Bloomfield	1,892	38	.....	.....	.....	.....	.....	.....	1
54 Farmington	1,568	13	.....	.....	.....	.....	.....	.....	5
55 Geneva	1,086	7	.....	.....	.....	.....	.....	.....	....
56 Gorham	2,010	17	.....	.....	.....	.....	.....	.....	....
57 Hopewell	1,493	22	.....	.....	.....	.....	.....	.....	....
58 Manchester	1,707	15	.....	.....	.....	.....	.....	.....	....
21 Clifton Springs, village (60)	*1,600*	*50*	.....	.....	.....	.....	.....	.....	....
22 Manchester, village	*881*	*11*	*1*	.....	.....	.....	.....	.....	....
23 Shortsville, village	*1,112*	*14*	.....	.....	.....	.....	.....	.....	....
59 Naples	1,256	17	.....	.....	.....	.....	.....	.....	....
24 Naples, village	*1,093*	*14*	.....	.....	.....	.....	.....	.....	....
60 Phelps (21)	2,968	34	.....	.....	.....	.....	.....	1	1
25 Phelps, village	*1,354*	*23*	.....	.....	.....	.....	.....	.....	....
61 Richmond	1,277	19	.....	.....	.....	.....	.....	.....	2
62 Seneca	2,669	33	.....	.....	.....	.....	.....	.....	2
63 South Bristol	965	9	.....	.....	.....	.....	.....	.....	....
64 Victor	1,512	18	.....	.....	.....	.....	.....	.....	....
26 Victor, village	*881*	*8*	.....	.....	.....	.....	.....	.....	....
65 West Bloomfield	1,181	17	.....	.....	.....	.....	.....	.....	....
Total villages		120	1	.....	.....	.....	.....	.....	....
Total, towns		298	.....	.....	.....	.....	.....	1	1

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Continued)

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Broncho-pneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
33 ONONDAGA COUNTY	200,296	243	42	193	2	90	196	169	2,171
01 Syracuse, city	137,249	164	37	130	2	64	142	136	1,470
50 Camillus	1,879	2	.....	3	.....	1	2	2	27
20 *Camillus, village*	*763*	.....	.....	*1*	.....	*2*	*1*	.....	*7*
51 Cicero	2,475	1	.....	2	.....	.....	1	.....	19
52 Clay	2,431	1	.....	6	.....	.....	3	1	21
53 DeWitt	3,338	2	1	1	.....	1	2	2	32
21 *East Syracuse, village*	*3,274*	*2*	.....	*2*	.....	*2*	*7*	*2*	*19*
22 *Eastwood, village*	*810*	.....	*1*	*2*	.....	*1*	.....	*1*	*11*
54 Elbridge	1,540	1	.....	1	.....	.....	.....	.....	9
23 *Elbridge, village*	*462*	.....	.....	*1*	.....	.....	.....	.....	*8*
24 *Jordan, village*	*978*	.....	.....	*2*	.....	.....	*2*	.....	*12*
55 Fabius	1,213	2	.....	1	.....	.....	.....	.....	9
25 *Fabius, village*	*344*	.....	.....	.....	.....	*1*	.....	.....	*4*
56 Geddes	820	.....	.....	1	.....	.....	2	1	6
26 *Solvay, village*	*5,139*	*4*	*1*	*1*	.....	*3*	*5*	*3*	*28*
57 LaFayette	1,601	3	.....	3	.....	1	1	1	14
58 Lysander	2,644	1	.....	3	.....	.....	2	.....	25
27 *Baldwinsville, village (68)*	*3,099*	*1*	.....	*8*	.....	*2*	*3*	.....	*45*
59 Manlius	3,221	4	.....	1	.....	3	1	.....	18
28 *Fayetteville, village*	*1,481*	.....	*1*	*2*	.....	.....	*1*	.....	*16*
34 *Minoa, village*	.....	*2*	.....	.....	.....	.....	*1*	.....	*10*
29 *Manlius, village*	*1,314*	.....	.....	*1*	.....	*1*	*1*	.....	*17*
60 Marcellus	1,909	.....	.....	1	.....	.....	1	2	17
30 *Marcellus, village*	*917*	.....	.....	.....	.....	.....	*1*	.....	*8*
61 Onondaga	6,340	36	.....	8	.....	3	10	2	147
62 Otisco	1,066	.....	.....	1	.....	.....	.....	.....	10
63 Pompey	2,093	2	.....	.....	.....	1	1	1	25
64 Salina	1,820	4	1	1	.....	4	1	8	26
31 *Liverpool, village*	*1,388*	*3*	.....	*1*	.....	.....	.....	.....	*18*
65 Skaneateles	2,659	2	.....	2	.....	.....	2	3	22
32 *Skaneateles, village*	*1,615*	*2*	.....	*3*	.....	.....	*1*	.....	*28*
66 Spafford	1,064	2	.....	.....	.....	.....	1	.....	8
67 Tully	835	1	.....	3	.....	.....	1	1	11
33 *Tully, village*	*551*	.....	.....	.....	.....	.....	*1*	.....	*8*
68 Van Buren (27)	1,966	1	.....	1	.....	.....	1	3	16
State Institution for Feeble-Minded Children, Syracuse	*(3301)*	1	1	1	.....	.....	2	.....	1
Total, villages		14	3	24	.....	12	22	6	239
Total, towns		65	2	39	.....	14	32	27	462
34 ONTARIO COUNTY	52,286	33	7	66	.....	11	28	18	597
01 Canandaigua, city	7,217	2	.....	10	.....	1	3	1	121
02 Geneva, city	12,446	8	3	11	.....	7	11	9	169
50 Bristol	1,247	.....	.....	1	.....	.....	1	.....	8
51 Canadice	559	.....	.....	1	.....	.....	.....	.....	6
52 Canandaigua	2,188	1	.....	2	.....	.....	4	1	12
53 East Bloomfield	1,892	7	1	2	.....	1	.....	.....	22
54 Farmington	1,568	1	.....	.....	.....	.....	.....	.....	12
55 Geneva	1,086	.....	.....	2	.....	.....	1	.....	4
56 Gorham	2,010	1	.....	2	.....	.....	1	.....	14
57 Hopewell	1,493	3	.....	2	.....	.....	.....	.....	16
58 Manchester	1,707	2	.....	1	.....	.....	.....	.....	12
21 *Clifton Springs, village (60)*	*1,600*	*1*	.....	*12*	.....	.....	*1*	.....	*36*
22 *Manchester, village*	*881*	.....	.....	*1*	.....	.....	.....	*1*	*8*
23 *Shortsville, village*	*1,119*	.....	*2*	*1*	.....	.....	.....	.....	*11*
59 Naples	1,256	1	.....	1	.....	.....	.....	.....	15
24 *Naples, village*	*1,093*	.....	.....	*3*	.....	.....	*1*	.....	*10*
60 Phelps (21)	2,968	1	.....	5	.....	.....	3	1	22
25 *Phelps, village*	*1,354*	*1*	.....	*4*	.....	.....	.....	.....	*18*
61 Richmond	1,277	.....	.....	1	.....	.....	.....	1	15
62 Seneca	2,669	.....	1	2	.....	2	1	.....	25
63 South Bristol	965	.....	.....	.....	.....	.....	.....	.....	9
64 Victor	1,512	2	.....	.....	.....	.....	.....	1	15
26 *Victor, village*	*881*	.....	.....	.....	.....	.....	.....	*1*	*7*
65 West Bloomfield	1,181	2	.....	2	.....	.....	1	2	10
Total, villages		2	2	21	.....	.....	2	2	90
Total, towns		21	2	24	.....	3	12	6	217

Digitized by Google

Table 18 — STATE OF NEW YORK: *District numbers, popula*

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
35 ORANGE COUNTY	116,001	1,944	20	.....	14	3	12	15	22
01 Middletown, city	15,313	386	1	.....	5	.....	4	.....	4
02 Newburgh, city	27,805	515	7	.....	3	1	.....	7	....
03 Port Jervis, city	9,564	159	1	.....	4	.....	.....	1	6
50 Blooming Grove	1,479	28	3	.....	.....	.....	2	.....	....
20 *Washingtonville, village*	*631*	*11*	.....	.....	.....	*1*	.....	.....	....
51 Chester	851	12	.....	.....	.....	.....	.....	.....	....
21 *Chester, village*	*1,210*	*16*	.....	.....	.....	.....	.....	.....	....
52 Cornwall	3,032	25	1	.....	.....	.....	.....	.....	....
22 *Cornwall, village*	*2,658*	*38*	.....	.....	.....	.....	*1*	.....	....
53 Crawford	1,659	15	.....	.....	.....	.....	.....	.....	....
54 Deerpark	1,696	33	.....	.....	.....	.....	.....	1	2
55 Goshen	2,068	59	.....	.....	.....	.....	.....	.....	....
23 *Goshen, village*	*3,081*	*68*	.....	.....	.....	.....	*2*	.....	*1*
56 Greenville	644	7	.....	.....	.....	.....	.....	.....	1
57 Hamptonburg	1,168	11	1	.....	.....	.....	.....	.....	1
58 Highlands	3,663	24	.....	.....	.....	.....	.....	.....	....
24 *Highland Falls, village*	*2,470*	*43*	.....	.....	.....	.....	.....	4	....
59 Minisink	953	16	.....	.....	.....	.....	.....	.....	1
25 *Unionville, village*	*351*	*4*	.....	.....	.....	.....	.....	.....	*1*
60 Monroe	1,090	15	.....	.....	.....	.....	.....	.....	....
26 *Monroe, village*	*1,195*	*25*	.....	.....	.....	.....	.....	.....	*1*
61 Montgomery	2,494	33	.....	.....	.....	1	.....	1	....
27 *Montgomery, village*	*941*	*17*	.....	.....	.....	.....	.....	*1*	....
28 *Walden, village*	*4,004*	*51*	4	.....	*1*	.....	.....	.....	....
62 Mt. Hope	1,786	35	.....	.....	.....	.....	.....	.....	....
63 Newburgh	5,132	71	.....	.....	1	.....	.....	.....	....
64 New Windsor	2,667	26	.....	.....	.....	.....	.....	.....	....
65 Tuxedo	2,858	28	.....	.....	.....	.....	.....	.....	....
66 Wallkill	2,578	61	2	.....	.....	.....	.....	.....	....
67 Warwick	4,823	46	.....	.....	.....	.....	2	.....	....
29 *Warwick, village*	*2,318*	*29*	.....	.....	.....	.....	*1*	.....	*3*
68 Wawayanda	1,603	14	.....	.....	.....	.....	.....	.....	1
69 Woodbury	2,216	22	.....	.....	.....	.....	.....	.....	....
Middletown State Hospital	*(3501)*	113	.....	.....	.....	.....	.....	.....	....
Total, villages		301	4	.....	1	1	4	5	0
Total, towns		581	7	.....	1	1	4	2	6
36 ORLEANS COUNTY	32,000	457	3	.....	1	1	.....	4	1
50 Albion	1,554	38	1	.....	.....	.....	.....	.....	....
20 *Albion, village (54)*	*5,016*	*77*	.....	.....	.....	.....	.....	*2*	....
51 Barre	1,812	17	.....	.....	.....	.....	.....	.....	....
52 Carlton	2,259	22	1	.....	.....	.....	.....	.....	....
53 Clarendon	1,335	16	.....	.....	.....	.....	.....	.....	....
54 Gaines (20)	1,831	28	.....	.....	.....	.....	.....	.....	....
55 Kendall	1,585	19	.....	.....	.....	.....	.....	.....	....
56 Murray	2,290	38	.....	.....	.....	.....	.....	1	1
21 *Holley, village*	*1,679*	*26*	*1*	.....	.....	.....	.....	.....	....
57 Ridgeway	2,797	35	.....	.....	.....	.....	.....	1	....
22 *Medina, village (58)*	*5,683*	*87*	.....	.....	*1*	*1*	.....	.....	....
58 Shelby (22)	2,003	31	.....	.....	.....	.....	.....	.....	....
59 Yates	1,509	12	.....	.....	.....	.....	.....	.....	....
23 *Lyndonville, village*	*647*	*11*	.....	.....	.....	.....	.....	.....	....
Total, villages		201	1	.....	1	1	.....	2	....
Total, towns		256	2	.....	.....	.....	.....	2	1
37 OSWEGO COUNTY	71,664	1,255	11	.....	4	.....	17	.....	17
01 Fulton, city	10,480	178	.....	.....	2	.....	2	.....	2
02 Oswego, city	23,368	430	6	.....	2	.....	12	.....	4
50 Albion	1,109	14	.....	.....	.....	.....	.....	.....	1
20 *Altmar, village*	*363*	*6*	.....	.....	.....	.....	.....	.....	....
51 Amboy	736	9	.....	.....	.....	.....	.....	.....	....
52 Boylston	667	10	.....	.....	.....	.....	.....	.....	....
53 Constantia	1,336	20	.....	.....	.....	.....	.....	.....	....
21 *Cleveland, village*	*687*	*10*	.....	.....	.....	.....	.....	.....	....
54 Granby	2,022	31	.....	.....	.....	.....	.....	.....	....
55 Hannibal	1,818	46	.....	.....	.....	.....	1	.....	4

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Continued)

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Broncho-pneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
35 ORANGE COUNTY	116,001	198	22	116	2	37	91	50	1,341
01 Middletown, city	15,313	37	6	26	1	10	17	9	268
02 Newburgh, city	27,805	57	7	37	.....	6	19	11	360
03 Port Jervis, city	9,564	17	2	7	.....	3	4	5	109
50 Blooming Grove	1,479	1	1	1	.....	1	6	1	12
20 *Washingtonville, village*	*631*	*1*	.....	.....	.....	.....	*2*	.....	*7*
51 Chester	851	.....	1	.....	.....	.....	1	.....	10
21 *Chester, village*	*1,210*	.....	.....	*2*	.....	.....	*1*	.....	*12*
52 Cornwall	3,032	4	.....	3	.....	2	.....	1	14
22 *Cornwall, village*	*2,658*	*2*	.....	*3*	.....	*1*	*2*	.....	*29*
53 Crawford	1,659	4	.....	1	.....	.....	.....	.....	10
54 Deerpark	1,696	1	.....	.....	.....	.....	2	.....	27
55 Goshen	2,068	8	2	2	.....	1	2	1	43
23 *Goshen, village*	*3,081*	*4*	.....	*2*	.....	*5*	*2*	*1*	*51*
56 Greenville	644	2	.....	1	.....	.....	1	.....	2
57 Hamptonburg	1,168	.....	.....	.....	.....	1	.....	.....	8
58 Highlands	3,663	1	1	2	.....	.....	1	.....	19
24 *Highland Falls, village*	*2,470*	*3*	.....	*2*	.....	*2*	*2*	*2*	*28*
59 Minisink	953	1	.....	2	.....	.....	2	.....	10
25 *Unionville, village*	*361*	.....	.....	*1*	.....	.....	.....	.....	*2*
60 Monroe	1,090	2	.....	1	.....	.....	1	1	10
26 *Monroe, village*	*1,195*	*2*	.....	*2*	*1*	.....	*2*	*1*	*16*
61 Montgomery	2,494	2	.....	1	.....	1	3	1	23
27 *Montgomery, village*	*941*	*1*	.....	.....	.....	.....	.....	.....	*15*
28 *Walden, village*	*4,004*	*8*	.....	*4*	.....	.....	*3*	*2*	*29*
62 Mt. Hope	1,786	16	.....	1	.....	.....	3	1	14
63 Newburgh	5,132	8	.....	4	.....	.....	4	3	51
64 New Windsor	2,667	2	1	2	.....	1	1	2	17
65 Tuxedo	2,858	1	.....	2	.....	1	3	3	18
66 Wallkill	2,578	6	1	3	.....	1	1	2	45
67 Warwick	4,823	1	.....	3	.....	.....	3	2	35
29 *Warwick, village*	*2,318*	*1*	.....	*1*	.....	.....	*1*	*1*	*21*
68 Wawayanda	1,603	2	.....	.....	.....	1	2	.....	8
69 Woodbury	2,216	3	1	.....	.....	.....	.....	.....	18
Middletown State Hospital	(*3501*)	15	2	5	1	1	2	.....	87
Total, villages		22	.....	17	1	8	15	7	210
Total, towns		65	8	29	.....	10	36	18	394
36 ORLEANS COUNTY	32,000	15	5	30	.....	7	19	18	353
50 Albion	1,554	1	.....	1	.....	1	3	4	27
20 *Albion, village* (*54*)	*5,016*	*3*	*1*	*5*	.....	*1*	*4*	*3*	*58*
51 Barre	1,812	.....	.....	1	.....	.....	1	.....	15
52 Carlton	2,259	.....	.....	1	.....	.....	.....	.....	20
53 Clarendon	1,335	.....	.....	1	.....	.....	.....	1	14
54 Gaines (20)	1,831	1	.....	1	.....	1	1	.....	24
55 Kendall	1,585	.....	.....	1	.....	.....	.....	1	17
56 Murray	2,290	4	2	2	.....	.....	1	1	26
21 *Holley, village*	*1,679*	.....	.....	*3*	.....	.....	*1*	*3*	*18*
57 Ridgeway	2,797	2	.....	3	.....	1	2	.....	26
22 *Medina, village* (*58*)	*5,683*	*4*	*1*	*7*	.....	.....	*5*	*1*	*67*
58 Shelby (22)	2,003	.....	1	2	.....	1	1	.....	26
59 Yates	1,509	.....	.....	.....	.....	.....	.....	1	11
23 *Lyndonville, village*	*647*	.....	.....	*2*	.....	*2*	.....	*3*	*4*
Total, villages		7	2	17	.....	3	10	10	147
Total, towns		8	3	13	.....	4	9	8	206
37 OSWEGO COUNTY	71,664	51	14	76	1	24	78	48	914
01 Fulton, city	10,480	8	2	6	1	6	16	14	119
02 Oswego, city	23,368	17	4	31	.....	9	22	21	302
50 Albion	1,109	.....	.....	1	.....	1	.....	.....	11
20 *Altmar, village*	*363*	*1*	.....	.....	.....	.....	*2*	.....	*3*
51 Amboy	736	1	.....	.....	.....	.....	.....	.....	8
52 Boylston	667	.....	.....	1	.....	.....	2	.....	7
53 Constantia	1,336	1	1	1	.....	.....	.....	1	16
21 *Cleveland, village*	*687*	*1*	*1*	*1*	.....	.....	.....	.....	7
54 Granby	2,022	3	1	2	.....	.....	1	.....	24
55 Hannibal	1,818	1	.....	1	.....	.....	2	.....	37

Digitized by Google

Table 18 — STATE OF NEW YORK: *District numbers, popula*

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
OSWEGO COUNTY — (*Continued*)									
22 Hannibal, village	*330*	*8*							
56 Hastings	1,886	29					1		
23 Central Square, village	*429*	*5*							
57 Mexico	1,749	41	1						1
24 Mexico, village	*1,233*	*30*							
58 New Haven	1,461	26							
59 Orwell	929	26	1						
60 Oswego	2,671	37							
61 Palermo	1,255	22							
62 Parish	821	10							
25 Parish, village	*490*	*7*							
63 Redfield	803	8							
64 Richland	2,003	47							1
26 Pulaski, village	*1,788*	*19*	*1*						
65 Sandy Creek	1,046	18							1
27 Lacona, village	*443*	*4*							
28 Sandy Creek, village	*617*	*19*							
66 Schroeppel	1,065	22							2
29 Phoenix, village	*1,642*	*29*							*1*
67 Scriba	2,199	38					1		1
68 Volney	2,407	28	1						
69 West Monroe	915	11							1
70 Williamstown	896	19	1						
Total, villages		135	1						1
Total, towns		512	4				3		10
38 OTSEGO COUNTY	**47,216**	**817**	**5**		**5**	**2**		**1**	**9**
01 Oneonta, city	**9,491**	**154**	**2**		**2**				
50 Burlington	1,108	14							
51 Butternuts	998	8							
20 Gilbertsville, village	*455*	*13*							
52 Cherry Valley	914	19							
21 Cherry Valley, village	*702*	*17*				*1*			
53 Decatur	476	6							
54 Edmeston	1,567	30							1
55 Exeter	1,067	17							
56 Hartwick	1,813	29						1	2
57 Laurens	1,211	26							
22 Laurens, village	*242*	*3*							
58 Maryland	1,276	16							
23 Schenevus, village	*576*	*12*			*1*				
59 Middlefield	1,901	71	1						
24 Cooperstown, village (65)	*2,484*	*58*	*1*						
60 Milford	1,314	17			1				1
25 Milford, village	*511*	*6*							
61 Morris	899	11							
26 Morris, village	*535*	*10*							
62 New Lisbon	1,039	15							
63 Oneonta	1,307	19							
64 Otego	1,028	12							
27 Otego, village	*676*	*16*	*1*						
65 Otsego (24)	1,851	32							2
66 Pittsfield	917	14							
67 Plainfield	844	10							1
68 Richfield	709	9							
28 Richfield Springs, village	*1,503*	*24*			1				
69 Roseboom	885	18							
70 Springfield	1,468	23				1			1
71 Unadilla	1,367	18							
29 Unadilla, village	*1,009*	*22*							
72 Westford	803	12							
73 Worcester	2,185	36							1
Total, villages		181	2		2	1			
Total, towns		482	1		1	1		1	9

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Continued)

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Broncho-pneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
OSWEGO COUNTY — (*Continued*)									
22 *Hannibal, village*	*330*			*1*			*1*		*6*
56 Hastings	1,886	1				1	3		23
23 *Central Square, village*	*429*						*1*		*2*
57 Mexico	1,749			1		1			37
24 *Mexico, village*	*1,233*	*2*		*3*		*1*	*3*	*1*	*20*
58 New Haven	1,461	1				1	2	2	20
59 Orwell	929	7		1			1	1	15
60 Oswego	2,671	3		1		1	3	2	27
61 Palermo	1,255					1			21
62 Parish	821		1					1	8
25 *Parish, village*	*490*	*2*							*5*
63 Redfield	803			1			1	1	5
64 Richland	2,003		1	4		1	1		39
26 *Pulaski, village*	*1,738*		*1*	*1*			*5*		*11*
65 Sandy Creek	1,046			1			1		15
27 *Lacona, village*	*443*								*4*
28 *Sandy Creek, village*	*617*			*4*					*15*
66 Schroeppel	1,065			2				1	17
29 *Phoenix, village*	*1,642*	*1*		*1*			*4*		*28*
67 Scriba	2,199		1	5			1		29
68 Volney	2,407		1	4			4	2	16
69 West Monroe	915							1	9
70 Williamstown	896	1				1	2		14
Total, villages		7	2	11		1	16	1	95
Total, towns		19	6	28		8	24	12	398
38 OTSEGO COUNTY	47,216	20	5	48	1	12	41	12	656
01 Oneonta, city	9,491	2	1	9		2	5	6	125
50 Burlington	1,108		1	1					12
51 Butternuts	998			1		1			6
20 *Gilbertsville, village*	*455*	*1*		*1*					*11*
52 Cherry Valley	914		1	1			1		16
21 *Cherry Valley, village*	*798*			*3*					*13*
53 Decatur	476								6
54 Edmeston	1,567	2	1	2			2		22
55 Exeter	1,067	1		1			1		14
56 Hartwick	1,813	1		1			6		18
57 Laurens	1,211			2		1	1		22
22 *Laurens, village*	*242*								*3*
58 Maryland	1,276			1			1		14
23 *Schenevus, village*	*576*	*1*							*10*
59 Middlefield	1,901	8		4	1		2	1	54
24 *Cooperstown, village (65)*	*2,484*		*1*	*1*		*4*	*3*	*3*	*45*
60 Milford	1,314	1					1		13
25 *Milford, village*	*511*								*6*
61 Morris	899			1			3		7
26 *Morris, village*	*535*			*2*		*1*			*7*
62 New Lisbon	1,039						2		13
63 Oneonta	1,307								19
64 Otego	1,023					1	1	1	9
27 *Otego, village*	*676*								*15*
65 Otsego (24)	1,851			1			4		25
66 Pittsfield	917	1		2			2		9
67 Plainfield	844			2					7
68 Richfield	709			1		1			7
28 *Richfield Springs, village*	*1,503*					*1*	*1*		*21*
69 Roseboom	885	2		3					13
70 Springfield	1,468			2					19
71 Unadilla	1,367			1			2		15
29 *Unadilla, village*	*1,009*			*2*			*1*		*19*
72 Westford	803			1			1		10
73 Worcester	2,185			2			1	1	31
Total, villages		2	1	9		6	5	3	150
Total, towns		16	3	30	1	4	31	3	381

Digitized by Google

Table 18 — STATE OF NEW YORK: *District numbers, popula*

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
39 PUTNAM COUNTY	**14,665**	**189**		**2**			**3**	**1**	**3**
50 Carmel	2,610	36		1					
51 Kent	968	13							2
52 Patterson	1,536	16							1
53 Phillipstown	2,031	25		1					
20 Cold Spring, village	*2,549*	*29*					*1*		
21 Nelsonville, village	*765*	*7*							
54 Putnam Valley	924	21					2	1	
55 Southeast	1,986	21							
22 Brewster, village	*1,296*	*21*							
Total, villages		57					1		
Total, towns		132					2	1	3
41 RENSSELAER COUNTY	**122,276**	**2,241**	**32**		**7**	**5**	**20**	**28**	**24**
01 Rensselaer, city	**10,711**	**169**					**4**	**4**	**3**
02 Troy, city	**76,813**	**1,589**	**26**		**6**	**4**	**10**	**19**	**15**
50 Berlin	1,615	28					1		1
51 Brunswick	2,832	33						1	
52 East Greenbush	1,350	22							
53 Grafton	1,019	16							
54 Hoosick	2,783	38							
20 Hoosick Falls, village	*5,532*	*83*					*2*		*1*
55 Nassau	1,586	21	1					1	
21 Nassau, village	*529*	*4*						*1*	
56 North Greenbush	1,293	16	2						
57 Petersburg	1,238	20					1		2
58 Pittstown	2,220	31				1			
22 Valley Falls, village (61)	*836*	*12*							
59 Poestenkill	1,078	9							
60 Sandlake	2,128	47	1		1		2		1
61 Schaghticoke (22)	1,880	18						1	
23 Schaghticoke, village	*765*	*10*							
62 Schodack	3,384	48	2					1	1
24 Castleton, village	*1,396*	*14*							
63 Stephentown	1,289	13							
Total, villages		123					2	1	1
Total, towns		360	6		1	1	4	4	5
43 ROCKLAND COUNTY	**46,873**	**640**	**6**		**1**		**3**	**7**	**8**
50 Clarkstown	7,389	91	1				1	1	
20 Upper Nyack, village	*591*	*9*							
51 Haverstraw	1,297	13							
21 Haverstraw, village	*5,669*	*67*	*1*						*1*
22 West Haverstraw, village	*2,369*	*37*						*1*	
52 Orangetown	5,935	63			1		1	3	2
23 Grand View-on-Hudson, village	*368*	*1*							
24 Nyack, village	*4,619*	*108*	*2*						*2*
25 Piermont, village	*1,380*	*22*							
26 South Nyack, village	*2,068*	*23*						*1*	
53 Ramapo	5,431	85					1	1	1
27 Hillburn, village	*1,090*	*13*							
28 Spring Valley, village	*2,353*	*27*							*2*
29 Suffern, village	*2,663*	*48*	*2*						
54 Stony Point	3,651	38							
Letchworth Village, Thiells	*(4351)*	1							
Total, villages		350	5					2	5
Total, towns		290	1		1		3	5	3
44 ST. LAWRENCE COUNTY	**89,005**	**1,526**	**15**		**5**	**7**	**12**	**6**	**14**
01 Ogdensburg, city	**15,933**	**436**	**4**		**4**	**3**	**5**	**5**	**7**
50 Brasher	2,179	30							
51 Canton	3,450	80	1						
20 Canton, village	*2,701*	*51*							*1*
31 Rensselaer Falls, village		*8*							
52 Clare	420	7							

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Continued)

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Broncho-pneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
39 PUTNAM COUNTY	**14,665**	**16**	**1**	**12**	**1**	**1**	**8**	**7**	**134**
50 Carmel	2,610	2	1	1			1	2	28
51 Kent	968			2					9
52 Patterson	1,536			1			2	1	11
53 Phillipstown	2,031	2		1	1	1			19
20 Cold Spring, village	*2,549*	*3*		*1*			*3*	*3*	*18*
21 Nelsonville, village	*765*	*1*		*1*					*5*
54 Putnam Valley	924	1		1				1	15
55 Southeast	1,986	3		1			1		16
22 Brewster, village	*1,296*	*4*		*3*			*1*		*13*
Total, villages		8		5			4	3	36
Total, towns		8	1	7	1	1	4	4	100
41 RENSSELAER COUNTY	**122,276**	**222**	**20**	**172**	**6**	**99**	**130**	**60**	**1,416**
01 Rensselaer, city	**10,711**	**8**	**1**	**13**	**1**	**6**	**18**	**1**	**110**
02 Troy, city	**76,813**	**171**	**14**	**134**	**4**	**79**	**88**	**48**	**971**
50 Berlin	1,615						1		25
51 Brunswick	2,832	3		1	1		2	1	24
52 East Greenbush	1,350	2	1			2	2	1	14
53 Grafton	1,019	3					2		11
54 Hoosick	2,783	3					1	1	33
20 Hoosick Falls, village	*5,532*	*8*	*1*	*6*		*4*	*2*	*5*	*54*
55 Nassau	1,586			1			2		16
21 Nassau, village	*529*			*1*					*2*
56 North Greenbush	1,293	1		1		1	4		7
57 Petersburg	1,238	4					1		12
58 Pittstown	2,220	5	2	1			1		21
22 Valley Falls, village (61)	*835*	*1*		*1*					*10*
59 Poestenkill	1,078	1		1			1		6
60 Sandlake	2,128	2		5		3	2		30
61 Schaghticoke (22)	1,880	1		1		1			14
23 Schaghticoke, village	*765*	*3*				*1*			*6*
62 Schodack	3,384	3	1	4		1	2	1	32
24 Castleton, village	*1,396*	*2*		*1*				*1*	*10*
63 Stephentown	1,289	1		1		1	1	1	8
Total, villages		14	1	9		5	2	6	82
Total, towns		29	4	16	1	9	22	5	253
42 ROCKLAND COUNTY	**46,873**	**59**	**9**	**51**	**3**	**22**	**36**	**17**	**418**
50 Clarkstown	7,389	6	2	6	1	4	6	2	61
20 Upper Nyack, village	*591*	*1*		*1*					*7*
51 Haverstraw	1,297			1					12
21 Haverstraw, village	*5,669*	*11*		*6*		*3*	*4*	*3*	*38*
22 West Haverstraw, village	*2,369*	*7*	*1*	*1*		*1*	*6*	*4*	*16*
52 Orangetown	5,935	4	1	6		1	4		40
23 Grand View-on-Hudson, village	*368*								*1*
24 Nyack, village	*4,619*	*7*	*3*	*8*	*1*	*2*	*5*	*1*	*74*
25 Piermont, village	*1,380*	*4*		*3*		*1*		*1*	*13*
26 South Nyack, village	*2,068*			*2*	*1*		*3*		*16*
53 Ramapo	5,431	4	1	8		6	6	6	51
27 Hillburn, village	*1,090*	*1*				*1*	*1*		*10*
28 Spring Valley, village	*2,353*	*4*		*2*			*1*		*18*
29 Suffern, village	*2,663*	*4*		*2*		*3*	*2*		*35*
54 Stony Point	3,651	6	1	5					26
Letchworth Village, Thiells	*(4351)*								1
Total, villages		39	4	25	2	11	20	9	228
Total, towns		20	5	26	1	11	16	8	190
44 ST. LAWRENCE COUNTY	**89,005**	**94**	**15**	**68**	**3**	**39**	**93**	**54**	**1,100**
01 Ogdensburg, city	**15,933**	**34**	**6**	**17**	**1**	**17**	**20**	**7**	**306**
50 Brasher	2,179	2		1		2			25
51 Canton	3,450	4	1	6		3	4	2	59
20 Canton, village	*2,701*	*3*	*2*	*4*			*2*	*2*	*3*
21 Rensselaer, village							*1*		
52 Clare	420	2							

Digitized by Google

Table 18 — STATE OF NEW YORK: *District numbers, popula*

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
ST. LAWRENCE COUNTY — (*Cont'd*)									
53 Clifton	1,674	21	1				1		
54 Colton	1,499	31							
55 De Kalb	2,209	21					1		
21 Richville, village	*307*	*7*					*1*		
56 Depeyster	907	14					1		1
57 Edwards	911	10				1			
22 Edwards, village	*476*	*5*	*1*						
58 Fine	2,234	12							
59 Fowler	1,655	16							
60 Gouverneur	1,892	23							
23 Gouverneur, village	*4,138*	*75*	*3*					*1*	
61 Hammond	1,341	19							
24 Hammond, village	*404*	*3*							
62 Hermon	939	11	2						
25 Hermon, village	*587*	*9*							
63 Hopkinton	1,469	31					1		1
64 Lawrence	1,676	26							
65 Lisbon	2,981	44							
66 Louisville	1,492	21							
67 Macomb	1,168	14							
68 Madrid	1,457	21				1			
69 Massena	1,855	26				1			1
26 Massena, village	*2,951*	*59*	*1*				*1*		
70 Morristown	1,348	18							
27 Morristown, village	*540*	*10*	*1*						
71 Norfolk	2,877	34							
28 Norwood, village (77)	*1,993*	*25*							
72 Oswegatchie	2,235	28			1				
32 Heuvelton, village		*11*							
73 Parishville	1,785	22							1
74 Piercefield	770	5							
75 Pierrepont	1,628	18							
76 Pitcairn	816	17				1	1		
77 Potsdam (28)	2,757	46							1
29 Potsdam, village	*4,056*	*58*	*1*						
78 Rossie	981	10							
79 Russell	1,842	20							
80 Stockholm	2,614	47					1		1
81 Waddington	1,157	11							
30 Waddington, village	*731*	*15*							
St. Lawrence State Hospital (*4401*)		138							
Total, villages		336	7				2	1	1
Total, towns		754	4		1	4	6		6
45 SARATOGA COUNTY	**61,917**	**1,011**	**11**	**1**	**2**	**13**	**5**	**9**	**9**
01 Saratoga Springs, village	**12,693**	**259**	**4**			**1**		**4**	**4**
50 Ballston	1,542	13							
20 Ballston Spa, village (61)	*4,138*	*62*	*1*						1
51 Charlton	1,030	10							
52 Clifton Park	2,225	32							
53 Corinth	936	27	1			2			
21 Corinth, village	*2,166*	*26*		*1*	*1*		*1*		
54 Day	628	9							1
55 Edinburg	793	15							
56 Galway	1,093	19							
22 Galway, village	*112*	*2*							
57 Greenfield	1,552	17							
58 Hadley	672	14							
59 Halfmoon	1,742	27	1			1	1		
23 Mechanicville, village (67)	*6,634*	*90*	*1*		*1*	*5*			
60 Malta	1,285	24							
61 Milton (20)	2,135	51				2			1
62 Moreau	1,093	20						1	
24 South Glens Falls, village	*2,247*	*26*							
63 Northumberland	1,127	17							
64 Providence	520	4							1

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Contin

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Broncho-pneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)
ST. LAWRENCE COUNTY—(*Cont'd*)								
53 Clifton	1,674					1	1	2
54 Colton	1,499	4					1	
55 De Kalb	2,209	2		1				1
21 Richville, village	*307*	*1*		*3*				*1*
56 Depeyster	907				1	1	3	
57 Edwards	911			1			3	
22 Edwards, village	*476*							
58 Fine	2,234	1					2	1
59 Fowler	1,655			1		2	1	
60 Gouverneur	1,892			1		1	2	1
23 Gouverneur, village	*4,128*	*4*	*1*	*3*		*3*	*1*	
61 Hammond	1,341	1		1			2	2
24 Hammond, village	*404*							
62 Hermon	939							1
25 Hermon, village	*587*	*1*		*1*				
63 Hopkinton	1,469	3		1		1	3	2
64 Lawrence	1,676	2		1		2	2	
65 Lisbon	2,981	2	1	2		1	6	
66 Louisville	1,492	1					2	2
67 Macomb	1,168	4					1	
68 Madrid	1,457	1	1				3	2
69 Massena	1,855	1		1		1	1	4
26 Massena, village	*2,951*	*1*		*4*	*1*	*2*	*10*	*5*
70 Morristown	1,348	1		2			2	
27 Morristown, village	*540*	*2*		*1*		*1*		
71 Norfolk	2,877	2	1					7
28 Norwood, village (77)	*1,993*	*4*	*1*	*1*				*1*
72 Oswegatchie	2,235	3		1			1	1
29 Heuvelton, village								
73 Parishville	1,785			*2*				
74 Piercefield	770	1					1	1
75 Pierrepont	1,628						2	
76 Pitcairn	816	1		1			2	2
77 Potsdam (28)	2,757		1	2			4	3
29 Potsdam, village	*4,036*	*3*		*3*			*5*	*3*
78 Rossie	981							1
79 Russell	1,842	1		1				
80 Stockholm	2,614	2		2		1	5	
81 Waddington	1,157							
30 Waddington, village	*731*			*3*				
St. Lawrence State Hospital (*4401*)		22		2		8	6	
Total, villages		18	4	23	1	6	19	12
Total, towns		42	5	28	1	16	54	35
45 SARATOGA COUNTY	61,917	71	7	55	1	22	56	39
61 Saratoga Springs, village	12,693	15	1	16		7	6	11
50 Ballston	1,542							
20 Ballston Spa, village (61)	*4,138*	*8*		*5*		*3*	*4*	*2*
51 Charlton	1,030							3
52 Clifton Park	2,225	2		3		2	4	
53 Corinth	936	2	1			2	1	1
21 Corinth, village	*2,166*	*1*				*3*	*2*	*3*
54 Day	628			1		1		
55 Edinburg	793						2	1
56 Galway	1,093	1					1	
22 Galway, village	*112*			*1*				
57 Greenfield	1,552	3		1			1	1
58 Hadley	672	1		2		1		1
59 Halfmoon	1,742	3					1	
23 Mechanicville, village (67)	*6,634*	*4*	*2*	*7*		*5*	*5*	*5*
60 Malta	1,285			4			3	
61 Milton (20)	2,135	2	1	2		1	4	
62 Moreau	1,093			2			1	2
24 South Glens Falls, village	*2,247*	*1*		*2*				
63 Northumberland	1,127		1	2			1	
64 Providence	520	1						

Digitized by Google

Table 18 — STATE OF NEW YORK: *District numbers, popula*

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
SARATOGA COUNTY — (*Continued*)									
65 Saratoga	1,580	19					1		
25 Schuylerville, village	*1,614*	*27*							
26 Victory Mills, village	*748*	*17*				*1*			
66 Saratoga Springs	1,017	18						1	
67 Stillwater (23)	2,555	35	1						
27 Stillwater, village	*1,004*	*11*	*1*						
68 Waterford	2,883	60	1			1		2	
28 Waterford, village	*3,245*	*43*				*2*		*1*	*1*
69 Wilton	908	17							
Total, villages		304	3	1	2	6	3	1	2
Total, towns		448	4			6	2	4	3
46 SCHENECTADY COUNTY	**88,235**	**1,276**	**10**		**3**	**15**	**21**	**17**	**6**
01 Schenectady, city	**72,826**	**1,040**	**9**		**3**	**14**	**15**	**14**	**3**
50 Duanesburg	2,211	30							
51 Glenville	2,244	53					1		
20 Scotia, village	*2,967*	*48*				*1*	*4*	*2*	
52 Niskayuna	1,907	32	1						2
53 Princetown	684	8							
54 Rotterdam	5,406	65					1	1	1
Total, villages		48				1	4	2	
Total, towns		188	1				2	1	3
47 SCHOHARIE COUNTY	**23,855**	**353**	**2**	**1**		**1**			**4**
50 Blenheim	616	8							
51 Broome	933	11							
52 Carlisle	1,024	14							1
53 Cobleskill	1,491	16	1						
20 Cobleskill, village	*2,088*	*43*							*1*
54 Conesville	708	9				1			
55 Esperance	714	15							
21 Esperance, village	*263*	*2*							
56 Fulton	1,450	22		1					
57 Gilboa	1,467	25							2
58 Jefferson	1,280	13							
59 Middleburg	1,439	15							
22 Middleburg, village	*1,114*	*20*							
60 Richmondville	831	13	1						
23 Richmondville, village	*599*	*11*							
61 Schoharie	1,530	23							
24 Schoharie, village	*996*	*19*							
62 Seward	1,419	21							
63 Sharon	1,366	12							
25 Sharon Springs, village	*459*	*8*							
64 Summit	1,105	17							
65 Wright	963	16							
Total, villages		103							1
Total, towns		250	2	1		1			3
48 SCHUYLER COUNTY	**14,004**	**239**	**1**	**1**					**1**
50 Catharine	892	12			1				
20 Odessa, village	*330*	*6*							
51 Cayuta	345	9							
52 Dix	1,167	14							
21 Watkins, village (56)	*2,817*	*51*							
53 Hector	3,132	55							
22 Burdett, village	*582*	*6*							
54 Montour	400	0							
23 Montour Falls, village	*1,208*	*32*		1					*1*
55 Orange	1,087	22							
56 Reading (21)	959	15							
57 Tyrone	1,285	17							
Total, villages		95		1					1
Total, towns		144			1				

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Continued)

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Broncho-pneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
SARATOGA COUNTY—(*Continued*)									
65 Saratoga	1,580	.....	.....	2	.....	.....	2	.....	14
25 Schuylerville, village	*1,614*	*1*	.....	*2*	.....	*1*	*1*	*2*	*20*
26 Victory Mills, village	*748*	*1*	.....	.....	*1*	*1*	*2*	*2*	*9*
66 Saratoga Springs	1,017	2	.....	1	.....	1	.....	.....	13
67 Stillwater (23)	2,555	3	1	.....	.....	2	2	3	23
27 Stillwater, village	*1,004*	*2*	.....	.....	.....	.....	.....	.....	*8*
68 Waterford	2,883	5	.....	2	.....	2	3	1	43
28 Waterford, village	*3,245*	*7*	.....	.....	.....	.....	*9*	*1*	*22*
69 Wilton	908	6	.....	.....	.....	.....	1	.....	10
Total, villages		25	2	17	1	13	23	15	190
Total, towns		31	4	22	.....	12	27	13	320
46 SCHENECTADY COUNTY	88,235	94	15	47	4	49	85	67	843
61 Schenectady, city	72,826	59	13	35	4	42	69	60	700
50 Duanesburg	2,211	1	.....	1	.....	1	4	1	22
51 Glenville	2,244	27	2	3	.....	1	.....	1	18
20 Scotia, village	*2,957*	*1*	.....	*3*	.....	*1*	*4*	*3*	*29*
52 Niskayuna	1,907	3	.....	4	.....	1	5	1	15
53 Princetown	684	.....	.....	.....	.....	.....	.....	.....	8
54 Rotterdam	5,406	3	.....	1	.....	3	3	1	51
Total, villages		1	.....	3	.....	1	4	3	29
Total, towns		34	2	9	.....	6	12	4	114
47 SCHOHARIE COUNTY	23,855	11	1	31	1	8	17	2	274
50 Blenheim	616	.....	.....	.....	.....	.....	2	.....	6
51 Broome	933	1	.....	2	.....	1	4	.....	3
52 Carlisle	1,024	.....	1	2	.....	.....	2	.....	8
53 Cobleskill	1,491	1	.....	3	.....	.....	.....	.....	11
20 Cobleskill, village	*2,083*	*1*	.....	*6*	.....	.....	.....	*1*	*34*
54 Conesville	708	1	.....	.....	.....	1	2	.....	4
55 Esperance	714	.....	.....	2	.....	.....	.....	.....	13
21 Esperance, village	*263*	.....	.....	.....	.....	.....	.....	.....	*2*
56 Fulton	1,450	1	.....	2	1	.....	1	.....	16
57 Gilboa	1,467	2	.....	2	.....	.....	1	.....	18
58 Jefferson	1,280	1	.....	1	.....	.....	.....	.....	11
59 Middleburg	1,439	.....	.....	.....	.....	.....	1	.....	14
22 Middleburg, village	*1,114*	*1*	.....	*2*	.....	*2*	*1*	.....	*14*
60 Richmondville	831	.....	.....	1	.....	.....	.....	.....	11
23 Richmondville, village	*595*	*1*	.....	.....	.....	.....	*1*	.....	*9*
61 Schoharie	1,530	.....	.....	1	.....	1	.....	.....	21
24 Schoharie, village	*996*	.....	.....	1	.....	.....	.....	.....	18
62 Seward	1,419	.....	.....	1	.....	.....	.....	.....	20
63 Sharon	1,366	.....	.....	1	.....	.....	.....	.....	11
25 Sharon Springs, village	*459*	*1*	.....	*1*	.....	.....	*1*	.....	*5*
64 Summit	1,105	.....	.....	2	.....	.....	.....	1	14
65 Wright	963	.....	.....	1	.....	3	1	.....	11
Total, villages		4	.....	10	.....	2	3	1	82
Total, towns		7	1	21	1	6	14	1	192
48 SCHUYLER COUNTY	14,004	2	4	21	.....	1	9	1	198
50 Catharine	982	.....	.....	.....	.....	.....	3	.....	8
20 Odessa, village	*330*	.....	.....	*1*	.....	.....	*1*	.....	*4*
51 Cayuta	345	.....	1	.....	.....	.....	1	.....	7
52 Dix	1,167	.....	.....	1	.....	1	.....	.....	12
21 Watkins, village (56)	*2,817*	.....	*2*	*3*	.....	.....	.....	.....	*46*
53 Hector	3,132	1	.....	2	.....	.....	1	.....	51
22 Burdett, village	*382*	*1*	.....	*2*	.....	.....	.....	.....	*3*
54 Montour	400	.....	.....	.....	.....	.....	.....	.....	.....
23 Montour Falls, village	*1,208*	.....	*1*	*5*	.....	.....	*2*	.....	*22*
55 Orango	1,087	.....	.....	.....	.....	.....	1	.....	21
56 Reading (21)	959	.....	.....	5	.....	.....	.....	1	9
57 Tyrone	1,285	.....	.....	2	.....	.....	.....	.....	15
Total, villages		1	3	11	.....	.....	3	.....	75
Total, towns		1	1	10	.....	1	6	1	123

Digitized by Google

Table 18 — STATE OF NEW YORK: *District numbers, popula*

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
49 SENECA COUNTY	26,972	550	5				3	2	7
50 Covert	1,254	12							
20 Interlaken, village	*658*	*14*							
51 Fayette	2,030	25							1
21 Waterloo, village (59)	*3,951*	*72*					*1*	*1*	1
52 Junius	957	19	1					1	1
53 Lodi	1,408	14							
54 Ovid	2,807	106							1
22 Ovid, village	*548*	*13*							
55 Romulus	2,803	117	4						1
56 Seneca Falls	819	9							
23 Seneca Falls, village	*6,588*	*103*					*2*		2
57 Tyre	900	16							
58 Varick	1,173	17							
59 Waterloo (21)	1,061	13							
Willard State Hospital (*4954–55*)		176							
Total, villages		202					3	1	3
Total, towns		348	5					1	4
50 STEUBEN COUNTY	82,362	1,389	13		4	1	5	7	4
01 Corning, city	13,730	203	4					3	
02 Hornell, city	13,617	220	1		2	1	2		1
50 Addison	505	10							
20 Addison, village	*2,004*	*24*							1
51 Avoca	1,083	13							
21 Avoca, village	*1,057*	*12*							
52 Bath	4,083	234					1	1	
22 Bath, village	*3,884*	*76*	*1*						
23 Savona, village	*587*	*10*							
53 Bradford	613	4							
54 Cameron	1,066	11							
55 Campbell	1,204	24							
56 Canisteo	1,182	19					1		
24 Canisteo, village	*2,259*	*29*							1
57 Caton	1,078	19							
58 Cohocton	2,088	27							
25 Cohocton village	*838*	*13*							
59 Corning	2,391	31							
60 Dansville	1,303	19							
61 Erwin	987	19							
26 Painted Post, village	*1,224*	*20*	*1*		*1*				1
62 Fremont	860	15			1				
63 Greenwood	1,111	19							
64 Hartsville	651	9							
65 Hornby	870	13							
66 Hornellsville	2,047	21							
31 Arkport, village		*11*					*1*		
67 Howard	1,461	19							
68 Jasper	1,264	11	1						
69 Lindley	1,153	15	1						
70 Prattsburg	1,150	13							
27 Prattsburg, village	*684*	*14*	*1*					1	
71 Pulteney	1,316	23	1						
72 Rathbone	917	11							
73 Thurston	840	11	1						
74 Troupsburg	1,712	20							
75 Tuscarora	1,006	9							
76 Urbana	1,405	7						1	
28 Hammondsport, village	*1,864*	*19*							
77 Wayland	1,444	15	1						
29 Wayland, village	*1,392*	*27*							
78 Wayne	643	7							
79 West Union	985	9							
80 Wheeler	959	9						1	

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Continued)

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Broncho-pneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
49 SENECA COUNTY	26,972	44	4	33	2	33	30	4	333
50 Covert	1,254	1		1					10
20 Interlaken, village	*693*			*2*					*12*
51 Fayette	2,030					1	2		21
21 Waterloo, village (59)	*3,931*	1	*1*	*5*	*2*		*2*	*1*	*57*
52 Junius	957	1					1	1	13
53 Lodi	1,408	2	1	1					10
54 Ovid	2,807	14	2	8		13	8		60
22 Ovid, village	*548*	*2*		*1*			*1*		*9*
55 Romulus	2,803	18		4		13	5		72
56 Seneca Falls	819			1				1	7
23 Seneca Falls, village	*6,558*	*4*		*3*		*5*	*9*	*1*	*77*
57 Tyre	900			3					13
58 Varick	1,173	1		2			1		13
59 Waterloo (21)	1,061			2		1	1		9
Willard State Hospital (*4954–55*)		26	1	9		25	13		102
Total, villages		7	1	11	2	5	12	2	155
Total, towns		37	3	22		28	18	2	228
60 STEUBEN COUNTY	83,362	50	9	95	1	25	58	18	1,099
61 Corning, city	13,730	8	3	7			17	4	157
62 Hornell, city	13,617	15	2	18	1	8	3	3	163
50 Addison	505								10
20 Addison, village	*2,004*			*2*				*1*	*20*
51 Avoca	1,083			5					8
21 Avoca, village	*1,057*			*2*					*10*
52 Bath	4,083	5		11		3	4		209
22 Bath, village	*3,884*	*2*	*1*	*5*		*3*	*8*		*56*
23 Savona, village	*587*			*1*					*9*
53 Bradford	613								4
54 Cameron	1,066			1					10
55 Campbell	1,204	1		1		2	1		19
56 Canisteo	1,182	2	1	3					12
24 Canisteo, village	*2,259*	*1*		*2*			*1*		*24*
57 Caton	1,078	1		1		1			16
58 Cohocton	2,088			3			1	1	22
25 Cohocton, village	*838*	*1*		*1*					*11*
59 Corning	2,391	1		1			4		25
60 Dansville	1,303	1				1			17
61 Erwin	987						1		18
26 Painted Post, village	*1,224*			*1*			*3*		*13*
62 Fremont	860			2				1	11
63 Greenwood	1,111	1		2			1		15
64 Hartsville	651			1					8
65 Hornby	870					1			12
66 Hornellsville	2,047			5		3		1	12
31 Arkport, village				*1*		*1*			*8*
67 Howard	1,461	1				1			17
68 Jasper	1,264	1					2	1	6
69 Lindley	1,153						1		13
70 Prattsburg	1,150	2					1		10
27 Prattsburg, village	*684*			*4*					*9*
71 Pulteney	1,316	1					2		18
72 Rathbone	917	1		2			1		7
73 Thurston	840	1		1		1	2		5
74 Troupsburg	1,712		1	2			1	1	15
75 Tuscarora	1,006			3					6
76 Urbana	1,405	1		1					4
28 Hammondsport, village	*1,254*	*1*		*1*			*1*		*16*
77 Wayland	1,444							1	13
29 Wayland, village	*1,382*	*1*		*4*			*1*		*21*
78 Wayne	643								7
79 West Union	985						1	1	7
80 Wheeler	959						1	1	6

Digitized by Google

Table 18 — STATE OF NEW YORK: *District numbers, popula*

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
STEUBEN COUNTY — (*Continued*)									
81 Woodhull	1,139	17							
30 Woodhull, village	*316*	*8*							
Soldier's and Sailor's Home, Bath (*5052*)		182							
Total, villages		203	3		1		1		3
Total, towns		703	5		1		2	4	
51 SUFFOLK COUNTY	**96,138**	**1,996**	**3**	**1**	**1**	**3**	**3**	**9**	**20**
50 Babylon	3,913	58						3	
20 Amityville, village	*2,517*	*97*							
21 Babylon, village	*2,600*	*42*							
51 Brookhaven	12,494	203	1					2	4
22 Bellport, village	*419*	*3*							*1*
23 Patchogue, village	*3,824*	*49*							*1*
52 Easthampton	3,554	38					3		3
24 Sag Harbor, village (58)	*3,408*	*51*							*1*
53 Huntington	9,908	137				1		2	2
25 Northport, village	*2,096*	*33*				*2*			*1*
54 Islip	18,346	581						1	1
55 Riverhead	5,345	98			1				1
56 Shelter Island	1,064	7							
57 Smithtown	7,073	836	2					1	1
58 Southampton (24)	6,491	88							1
26 Southampton, village	*2,509*	*43*							
59 Southold	7,488	74							2
27 Greenport, village	*3,089*	*58*		*1*					*1*
Central Islip State Hospital (*5154*)		411							
Kings Park State Hospital (*5157*)		286	2						
Total, villages		376		1		2			5
Total, towns		1,620	3		1	1	3	9	15
52 SULLIVAN COUNTY	**33,808**	**737**	**5**	**1**	**3**	**1**		**2**	**2**
50 Bethel	2,164	35							
51 Callicoon	2,059	35			1				
52 Cochecton	1,142	22							
53 Delaware	1,842	46		1					
54 Fallsburgh	3,782	84							
23 Centerville Station, village		*7*							
55 Forestburg	545	5							
56 Fremont	1,931	20	1						
57 Highland	1,031	43	1						1
58 Liberty	3,330	109						1	
20 Liberty, village	*2,072*	*88*				*1*		*1*	
59 Lumberland	716	13							1
60 Mamakating	2,444	38			2				
21 Wurtsboro, village	*478*	*10*							
61 Neversink	1,743	23	1						
62 Rockland	3,455	50							
63 Thompson	2,255	49	1						
22 Monticello, village	*1,941*	*51*	*1*						
64 Tusten	878	9							
Total, villages		156	1			1		1	
Total, towns		581	4	1	3			1	2
53 TIOGA COUNTY	**25,624**	**402**	**5**			**1**		**1**	**4**
50 Barton	1,576	21				1			
20 Waverly, village	*4,855*	*64*	*4*					*1*	*1*
51 Berkshire	846	7							
52 Candor	2,174	31							1
21 Candor, village	*737*	*15*							
53 Newark Valley	1,177	18							
22 Newark Valley, village	*925*	*15*							*1*
54 Nichols	933	12	1						1

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Continued)

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Broncho-pneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
STEUBEN COUNTY—(*Continued*)									
81 Woodhull	1,139	1	.....	1	.....	.....	.....	2	13
30 *Woodhull, village*	*316*	.....	*1*	.....	.....	.....	.....	.....	*7*
Soldier's and Sailor's Home, Bath (*5052*)		3	.....	7	.....	3	2	.....	167
Total, villages		6	2	24	.....	4	14	1	204
Total, towns		21	2	46	.....	13	24	10	575
51 SUFFOLK COUNTY	96,138	178	19	95	2	101	98	31	1,432
50 Babylon	3,913	5	.....	3	.....	2	4	1	40
20 *Amityville, village*	*2,517*	*11*	.....	*2*	.....	*2*	*3*	.....	*79*
21 *Babylon, village*	*2,600*	*2*	*1*	*4*	.....	*1*	*3*	.....	*31*
51 Brookhaven	12,494	13	5	7	.....	2	12	6	151
22 *Bellport, village*	*419*	.....	.....	.....	.....	.....	.....	.....	*2*
23 *Patchogue, village*	*3,824*	*4*	.....	*5*	*1*	*2*	*2*	*2*	*32*
52 Easthampton	3,554	2	1	3	.....	.....	2	.....	24
24 *Sag Harbor, village (58)*	*3,408*	*3*	*1*	*5*	.....	*5*	*3*	*4*	*29*
53 Huntington	9,908	5	1	11	.....	5	6	4	100
25 *Northport, village*	*2,098*	*2*	*1*	*4*	.....	.....	*3*	.....	*20*
54 Islip	18,346	63	5	13	.....	44	28	5	421
55 Riverhead	5,345	10	1	5	.....	4	5	3	68
56 Shelter Island	1,064	.....	.....	1	.....	1	1	.....	4
57 Smithtown	7,073	38	1	10	.....	30	13	1	239
58 Southampton (24)	6,491	9	.....	10	.....	2	2	4	60
26 *Southampton, village*	*2,509*	*3*	.....	*3*	*1*	.....	*4*	.....	*32*
59 Southold	7,488	3	1	5	.....	1	5	.....	57
27 *Greenport, village*	*3,089*	*5*	*1*	*4*	.....	.....	*2*	*1*	*43*
Central Islip State Hospital (*5154*)		52	3	6	.....	41	17	.....	292
Kings Park State Hospital (*5157*)		36	1	8	.....	30	11	.....	198
Total, villages		30	4	27	2	10	20	7	268
Total, towns		148	15	68	.....	91	78	24	1,164
52 SULLIVAN COUNTY	32,303	208	7	26	1	7	34	10	430
50 Bethel	2,164	3	.....	2	.....	.....	2	.....	28
51 Callicoon	2,059	7	1	3	.....	.....	5	1	17
52 Cochecton	1,142	3	.....	4	.....	.....	1	.....	14
53 Delaware	1,842	7	.....	3	.....	2	2	.....	31
54 Fallsburgh	3,782	14	.....	3	.....	1	3	.....	63
23 *Centerville Station, village*	.....	*1*	.....	.....	.....	.....	.....	.....	*6*
55 Forestburg	545	2	.....	.....	.....	.....	.....	.....	3
56 Fremont	1,931	2	.....	2	.....	.....	.....	1	14
57 Highland	1,031	8	.....	.....	.....	.....	2	1	30
58 Liberty	3,330	59	3	2	.....	.....	5	3	36
20 *Liberty, village*	*2,078*	*59*	.....	*2*	.....	*2*	*1*	*1*	*21*
59 Lumberland	716	3	.....	.....	.....	.....	.....	.....	9
60 Mamakating	2,444	3	1	2	1	1	.....	1	27
21 *Wurtsboro, village*	*478*	*2*	.....	.....	.....	*1*	.....	.....	*7*
61 Neversink	1,743	1	.....	.....	.....	.....	4	.....	17
62 Rockland	3,455	7	1	1	.....	.....	5	1	35
63 Thompson	2,255	14	1	1	.....	.....	1	.....	31
22 *Monticello, village*	*1,941*	*12*	.....	*1*	.....	.....	*3*	*1*	*33*
64 Tusten	878	1	.....	.....	.....	.....	.....	.....	8
Total, villages		74	.....	3	.....	3	4	2	67
Total, towns		134	7	23	1	4	30	8	363
53 TIOGA COUNTY	25,624	11	3	28	1	6	31	4	307
50 Barton	1,576	.....	.....	3	.....	.....	.....	.....	17
20 *Waverly, village*	*4,855*	.....	.....	*4*	*1*	*3*	*10*	.....	*40*
51 Berkshire	846	.....	1	.....	.....	.....	.....	.....	6
52 Candor	2,174	3	.....	.....	.....	.....	2	.....	25
21 *Candor, village*	*737*	*1*	.....	*1*	.....	.....	*2*	.....	*11*
23 Newark Valley	1,177	.....	.....	1	.....	.....	2	.....	15
54 *Newark Valley, village*	*925*	.....	.....	*1*	.....	.....	*2*	.....	*11*
55 Nichols	933	.....	.....	.....	.....	.....	1	.....	9

Digitized by Google

Table 18 — STATE OF NEW YORK: *District numbers, popula*

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
TIOGA COUNTY — (*Continued*)									
23 Nichols, village	*533*	*2*							
55 Owego	2,841	49							
24 Owego, village	*4,633*	*104*							
56 Richford	925	5							
57 Spencer	960	15							
25 Spencer, village	*569*	*14*							
58 Tioga	1,940	30							
Total, villages		214	4					1	2
Total, towns		188	1			1			2
54 TOMPKINS COUNTY	33,647	536	6					1	2
01 Ithaca, city	14,802	246	5						1
50 Caroline	1,646	29							
51 Danby	1,235	21							
52 Dryden	2,563	37							
20 Dryden, village	*709*	*14*	*1*						
21 Freeville, village	*318*	*7*						*1*	
53 Enfield	1,000	13							
54 Groton	2,029	33							
22 Groton, village	*1,260*	*16*							*1*
55 Ithaca	1,288	14							
56 Lansing	2,676	45							
57 Newfield	1,155	8							
23 Newfield, village	*354*	*5*							
58 Ulysses	1,424	33							
24 Trumansburg, village	*1,188*	*15*							
Total, villages		57	1					1	1
Total, towns		233							
55 ULSTER COUNTY	91,769	1,318	14	2	10	7		9	14
01 Kingston, city	25,908	488	2	1	7	2		2	6
50 Denning	615	7							
51 Esopus	3,987	62	2		1				1
20 Rifton, village	*745*	*3*							
52 Gardiner	2,779	19							
53 Hardenburg	598	7							
54 Hurley	1,734	24	1					1	
55 Kingston	343	8							
56 Lloyd	2,803	44			1	1			1
57 Marbletown	4,713	29	1						1
58 Marlborough	2,921	43				4		1	
21 Marlboro, village	*920*	*12*							1
59 New Paltz	1,795	30							1
22 New Paltz, village	*1,230*	*17*	*1*						
60 Olive	4,497	48	2					1	
61 Plattekill	1,879	20						1	
62 Rochester	2,760	41	2	1					1
63 Rosendale	2,592	25	1						
23 Rosendale, village	*1,125*	*9*							
64 Saugerties	5,703	88						1	
24 Saugerties, village	*3,929*	*60*							*1*
65 Shandaken	2,240	31	1					1	
25 Pine Hill, village	*417*	*6*							
66 Shawangunk	2,548	36							1
67 Ulster	3,554	36			1				
68 Wawarsing	4,673	54						1	
26 Ellenville, village	*3,114*	*51*							
69 Woodstock	1,647	20	1						
Eastern New York Reformatory	(*5568*)	2							
Total, villages		158	1						
Total, towns		672	11	1	3	5		7	6

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Continued)

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Broncho-pneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
TIOGA COUNTY—(*Continued*)									
23 *Nichols, village*	*533*			*1*					*1*
55 Owego	2,841	1		4			3	1	40
24 *Owego, village*	*4,633*	*4*	*1*	*10*		*2*	*7*	*2*	*78*
56 Richford	925								5
57 Spencer	960			2			1		12
25 *Spencer, village*	*569*		*1*						*13*
58 Tioga	1,940	2		1		1	1	1	24
Total, villages		5	2	17	1	5	21	2	154
Total, towns		6	1	11		1	10	2	153
54 TOMPKINS COUNTY	**33,647**	**26**	**6**	**41**	**1**	**4**	**24**	**15**	**410**
01 Ithaca, city	**14,802**	**17**	**3**	**19**	**1**	**2**	**10**	**9**	**179**
50 Caroline	1,646			3					26
51 Danby	1,235	1				1	1		18
52 Dryden	2,563	2		3			2	2	28
20 *Dryden, village*	*709*			*1*			*1*		*11*
21 *Freeville, village*	*318*								*6*
53 Enfield	1,000	1		1			2		9
54 Groton	2,029	1	1	2			2		27
22 *Groton, village*	*1,260*			*1*			*1*		*13*
55 Ithaca	1,288		1	1		1			11
56 Lansing	2,676			6			2	3	34
57 Newfield	1,155			1			1		6
23 *Newfield, village*	*354*			*1*				*1*	*3*
58 Ulysses	1,424	3	1	1			2		26
24 *Trumansburg, village*	*1,188*	*1*		*1*					*13*
Total, villages		1		4			2	1	46
Total, towns		8	3	18		2	12	5	185
55 ULSTER COUNTY	**91,789**	**144**	**16**	**92**	**1**	**26**	**58**	**28**	**897**
01 Kingston, city	**25,908**	**46**	**12**	**45**		**9**	**22**	**9**	**325**
50 Denning	615	1		1					5
51 Esopus	3,987	10		1				1	46
20 *Rifton, village*	*745*							*1*	*2*
52 Gardiner	2,779	2		1				1	15
53 Hardenburg	598	2		2					3
54 Hurley	1,734	2		1			2	1	16
55 Kingston	343	2							6
56 Lloyd	2,803	2		3		3	2	2	29
57 Marbletown	4,713	5		3		1	4		14
58 Marlborough	2,921	5		2			1		30
21 *Marlboro, village*	*920*			*1*			*1*		*9*
59 New Paltz	1,795	3		2			2		22
22 *New Paltz, village*	*1,230*	*2*			*1*		*1*		*12*
60 Olive	4,497	4		2		1		5	33
61 Plattekill	1,879	5				1		1	12
62 Rochester	2,760	6		2		1	1	1	27
63 Rosendale	2,592	1		4		1		2	15
23 *Rosendale, village*	*1,125*								*9*
64 Saugerties	5,703	18	2	1		3	9	2	52
24 *Saugerties, village*	*3,929*	*8*	*1*	*4*		*1*	*3*		*42*
65 Shandaken	2,240	1		1		1			26
25 *Pine Hill, village*	*417*		*1*						*5*
66 Shawangunk	2,548	5		4			4	1	21
67 Ulster	3,554	4		3		1	2		25
68 Wawarsing	4,673	3		2					48
26 *Ellenville, village*	*3,114*	*5*		*4*		*3*	*3*	*1*	*35*
69 Woodstock	1,647	2		3			1		13
Eastern New York Reformatory	(*5568*)								2
Total, villages		15	2	9	1	4	8	2	114
Total, towns		83	2	38		13	28	17	458

Digitized by Google

Table 18 — STATE OF NEW YORK: *District numbers, popula*

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
50 WARREN COUNTY	32,223	546	8	1			2	1	3
01 Glens Falls, village	15,243	290	5				1		2
50 Bolton	1,518	22	1						
51 Caldwell	850	6							
20 *Lake George, village*	*632*	*12*							
52 Chester	1,721	33							1
53 Hague	1,043	9							
54 Horicon	1,001	10							
55 Johnsburg	2,315	29							
56 Luzerne	1,185	14	1						
57 Queensbury	2,667	48		1					
58 Stony Creek	858	10							
59 Thurman	805	13							
60 Warrensburg	2,385	50	1				1	1	
Total, villages		12							
Total, towns		244	3	1			1	1	1
57 WASHINGTON COUNTY	47,778	699	4				3	4	17
50 Argyle	1,575	30	1						2
20 *Argyle, village*	*231*	*4*							
51 Cambridge	1,222	14							
21 *Cambridge, village (65)*	*1,528*	*40*							
52 Dresden	582	8							
53 Easton	1,772	18							1
22 *Greenwich, village (57)*	*2,314*	*49*	*1*						1
54 Fort Ann	1,800	29							
23 *Fort Ann, village*	*436*	*10*							1
55 Fort Edward	1,978	24							2
24 *Fort Edward, village*	*3,762*	*54*						*1*	
56 Granville	2,514	25					1		
25 *Granville, village*	*3,920*	*54*						*1*	1
57 Greenwich (22)	2,274	44							2
58 Hampton	645	8							
59 Hartford	1,216	23							
60 Hebron	1,505	12							
61 Jackson	985	22					1	1	1
62 Kingsbury	1,891	28							1
26 *Hudson Falls, village*	*5,189*	*69*							3
63 Putnam	504	5							
64 Salem	1,530	18							
27 *Salem, village*	*1,250*	*12*							
65 White Creek (21)	1,286	17							1
66 Whitehall	952	13							
28 *Whitehall, village*	*4,917*	*69*	*2*				*1*	*1*	*1*
Great Meadow Prison, Comstock	*(5754)*	1							
Total, villages		361	3				1	3	7
Total, towns		338	1				2	1	10
58 WAYNE COUNTY	50,179	691	5		1		3	6	8
50 Arcadia	2,445	23	1					1	
20 *Newark, village*	*6,227*	*89*					*1*	*3*	*1*
51 Butler	1,450	22	1						
21 *Wolcott, village (64)*	*1,216*	*21*							
52 Galen	1,935	22			1				
22 *Clyde, village*	*2,695*	*39*	*1*					*1*	
53 Huron	1,531	27							1
54 Lyons	1,453	33					1		1
23 *Lyons, village*	*4,460*	*79*						*1*	1
55 Macedon	1,819	14							1
24 *Macedon, village*	*536*	*7*							
56 Marion	2,102	34					1		
57 Ontario	2,672	40	1						
58 Palmyra	1,901	24							
25 *Palmyra, village*	*2,268*	*25*							
59 Rose	1,883	20							1
60 Savannah	1,065	16							

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Continued)

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Bronchopneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
56 WARREN COUNTY	**32,223**	**40**	**5**	**40**	**1**	**9**	**24**	**10**	**402**
01 Glens Falls, village	**15,243**	**22**	**4**	**21**	**1**	**4**	**8**	**4**	**218**
50 Bolton	1,518			1		1	2		17
51 Caldwell	850						1		5
20 Lake George, village	*652*			*2*					*10*
52 Chester	1,721	1		5					26
53 Hague	1,043								9
54 Horicon	1,001			1			1		8
55 Johnsburg	2,315	5	1	1		1	3	1	17
56 Luzerne	1,185	1				1	1		10
57 Queensbury	2,667	6		3		1	2	4	31
58 Stony Creek	858			2					8
59 Thurman	805	1		1			3		8
60 Warrensburg	2,385	4		3		1	3	1	35
Total, villages				2					10
Total, towns		18	1	17		5	16	6	174
57 WASHINGTON COUNTY	**47,778**	**35**	**7**	**36**	**1**	**16**	**32**	**31**	**513**
50 Argyle	1,575			1		2	3		21
20 Argyle, village	*231*						*1*		*3*
51 Cambridge	1,222	1		4					9
21 Cambridge, village (65)	*1,528*	*2*				*1*	*3*	*1*	*33*
52 Dresden	582	1						1	6
53 Easton	1,772				1	2		1	13
22 Greenwich, village (57)	*2,314*	*5*	*1*	*2*		*2*	*2*		*35*
54 Fort Ann	1,800	4	2	2			2		19
23 Fort Ann, village	*436*		*1*	*1*					7
55 Fort Edward	1,978	2		1		1	1	3	14
24 Fort Edward, village	*3,763*	*1*		*2*			*3*	*3*	*44*
56 Granville	2,514	1		3					20
25 Granville, village	*3,920*	*5*	*1*	*5*			*2*	*3*	*38*
57 Greenwich (22)	2,274	3		2			2		35
58 Hampton	645	1					1	1	5
59 Hartford	1,216			1			2		20
60 Hebron	1,505			1		1	1		9
61 Jackson	985	1		1		1			16
62 Kingsbury	1,891					1	1	4	21
26 Hudson Falls, village	*5,189*	*3*		*5*			*4*	*6*	*48*
63 Putnam	504							1	4
64 Salem	1,530							1	17
27 Salem, village	*1,250*			*2*		*1*			*9*
65 White Creek (21)	1,286	1				1	1		13
66 Whitehall	952	2	1	1					9
28 Whitehall, village	*4,917*	*2*	*1*	*4*		*3*	*3*	*6*	*45*
Great Meadow Prison, Comstock	*(575.4)*						1		
Total, villages		18	4	19		7	18	19	262
Total, towns		17	3	17	1	9	14	12	251
58 WAYNE COUNTY	**50,179**	**29**	**6**	**59**	**3**	**18**	**20**	**24**	**509**
50 Arcadia	2,445			2				1	18
20 Newark, village	*6,287*	*2*		*8*	*1*	*4*	*3*	*3*	*63*
51 Butler	1,450			3			2		16
21 Wolcott, village (64)	*1,216*			*5*					*16*
52 Galen	1,935	1		2					18
22 Clyde, village	*2,695*	*1*	*1*	*4*		*2*		*5*	*26*
53 Huron	1,531	1	1	3			1	1	19
54 Lyons	1,453		1	2				1	27
23 Lyons, village	*4,460*	*4*		*4*		*2*	*3*	*5*	*59*
55 Macedon	1,819	1		1		1		2	8
24 Macedon, village	*536*	*1*					*1*		*5*
56 Marion	2,102	1		2	1	2	1	3	23
57 Ontario	2,672	1		5		2	1	1	29
58 Palmyra	1,901	1		1		1	1	1	19
25 Palmyra, village	*2,268*	*1*	*1*	*1*		*1*	*1*		*20*
59 Rose	1,883	1		2		1			15
60 Savannah	1,065	1		1					14

Digitized by Google

Table 18 — STATE OF NEW YORK: *District numbers, popula*

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
WAYNE COUNTY — *(Continued)*									
26 Savannah, village	*521*	*2*							
61 Sodus	4,857	63	1						2
62 Walworth	2,187	25							
63 Williamson	3,060	37							
64 Wolcott (21)	1,439	23							
27 Red Creek, village	*457*	*6*							
Newark State Custodial Asylum *(5820)*		3							
Total, villages		268	1				1	5	2
Total, towns		423	4		1		2	1	6
50 WESTCHESTER COUNTY	283,055	4,035	16	4	43	14	32	57	26
01 Peekskill, village	15,245	255	2	2	6		6	7	1
02 White Plains village (67)	15,949	258	3				4	2	1
03 Mt. Vernon, city	30,919	390			3			3	3
04 New Rochelle, city	28,867	357			2	1	2	4	1
05 Ossining, village	11,480	187	1		1				1
06 Port Chester, village	12,809	194	2		3	3		3	5
07 Yonkers, city	79,803	1,094	4	1	16	4	6	27	4
50 Bedford	4,363	78			1		1		
20 Mt. Kisco, village (58)	*2,802*	*57*							
51 Cortlandt	5,204	96	2	1	6		2	2	2
21 Croton-on-Hudson, village	*1,806*	*19*	*1*						
52 Eastchester	1,837	18							1
22 Bronxville, village	*1,863*	*35*							
23 Tuckahoe, village	*2,722*	*44*				*1*	*1*		
53 Greenburgh	4,685	43						1	
24 Ardsley, village	*537*	*7*							
25 Dobbs Ferry, village	*3,455*	*46*					*1*		
26 Hastings-on-Hudson, village	*4,552*	*34*			*1*				
27 Irvington, village	*2,319*	*20*						*1*	
28 Tarrytown, village	*5,600*	*75*	*1*		*1*		*1*		
29 Elmsford, village		*10*							
54 Harrison	4,226	53			1			1	
55 Lewisboro	1,127	17			1				
56 Mamaroneck	230	4							
29 Larchmont, village	*1,958*	*13*							
30 Mamaroneck, village (64)	*5,699*	*69*						*2*	1
57 Mt. Pleasant	3,789	214					2	1	
31 Briarcliff Manor, vil. (61)	*950*	*8*							
32 North Tarrytown, village	*5,431*	*65*					*1*	*3*	1
33 Pleasantville, village	*2,207*	*27*					*2*		
34 Hillside, village	*483*	*22*					*1*		1
58 Newcastle (20)	2,037	24							1
59 North Castle	1,522	29					1		
60 North Salem	1,258	19				2			
61 Ossining (31)	421	7							
62 Pelham	154	0							
35 North Pelham, village	*1,311*	*19*				*2*			
36 Pelham, village	*681*	*3*				*1*			
37 Pelham Manor, village	*852*	*10*							
63 Poundridge	725	9							
64 Rye (30)	594	5							
38 Rye, village	*3,964*	*42*					*1*		
65 Scarsdale	1,300	13							
66 Somers	1,228	19							
67 White Plains (02)	1,141	12							1
68 Yorktown	3,020	37			1				
Bloomingdale Asylum, White Plains *(5902)*		24							
Sing Sing Prison *(5905)*		17							
State Reformatory for Women, Bedford *(5950)*		1							
Total, villages		605	2		2	4	8	6	3
Total, towns		695	2	1	10	2	6	5	5

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Continued)

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Broncho-pneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes]
WAYNE COUNTY — (*Continued*)									
26 *Savannah, village*	521	1							1
61 Sodus	4,857	4	1	4			2	1	50
62 Walworth	2,187		1	2				1	19
63 Williamson	3,060	2		6		1	4	1	23
64 Wolcott (21)	1,439	5		1	1	1			15
27 *Red Creek, village*	457								6
Newark State Custodial Asylum (5820)		1		1			1		
Total, villages		10	2	22	1	9	8	11	196
Total, towns		19	4	37	2	9	12	13	313
59 WESTCHESTER COUNTY	283,055	374	69	287	17	138	241	226	2,496
01 Peekskill, village	15,245	17	2	14		8	10	15	163
02 White Plains, village (67)	15,949	18	6	19		12	16	9	168
03 Mt. Vernon, city	30,919	18	9	29	1	11	18	25	270
04 New Rochelle, city	28,867	22	2	28	2	14	23	15	241
05 Ossining, village	11,480	18	3	14		4	15	4	126
06 Port Chester, village	12,809	13	5	11	1	15	13	12	108
07 Yonkers, city	79,803	106	23	64	10	37	66	93	633
50 Bedford	4,363	26		3		5	6	3	33
20 *Mt. Kisco, village (58)*	2,802	2	1	3				1	30
51 Cortlandt	5,204	7	2	6		1	6	4	55
21 *Croton-on-Hudson, village*	1,806						2	1	15
52 Eastchester	1,837	2		2		1	2		11
22 *Bronxville, village*	1,863	1	1	3		1	7		21
23 *Tuckahoe, village*	2,722	4		2		2	3	7	24
53 Greenburgh	4,685	3		2		1	2	7	27
24 *Ardsley, village*	537							1	6
25 *Dobbs Ferry, village*	3,455	1		6			6	1	31
26 *Hastings-on-Hudson, village*	4,552	4	1	1		3	1	1	22
27 *Irvington, village*	2,319	3	1	1	1		3		10
28 *Tarrytown, village*	5,600	4		8		1	5	2	52
29 *Elmsford, village*		1	2					1	6
54 Harrison	4,226	2		5	1		4	3	36
55 Lewisboro	1,127	3		1			2		10
56 Mamaroneck	230								4
29 *Larchmont, village*	1868	1				1			11
30 *Mamaroneck, village (64)*	5,699	2	2	3		5	6	6	42
57 Mt. Pleasant	3,789	69	6	13		2	6	2	113
31 *Briarcliff Manor, village (61)*	950			1		1	1		5
32 *North Tarrytown, village*	5,421	7	1	2	1	2	5	3	58
33 *Pleasantville, village*	2,207	4		4		1	1	2	14
34 *Hillside, village*	423	1		19					1
58 Newcastle (20)	2,037	1	1	1			1		19
59 North Castle	1,522		1	2		1	2	3	18
60 North Salem	1,258			3				1	13
61 Ossining (31)	421	1		1					5
62 Pelham	154								
35 *North Pelham, village*	1,311	3		3		1		1	9
36 *Pelham, village*	681								2
37 *Pelham Manor, village*	852			1		1	1		7
63 Poundridge	725						1		8
64 Rye (30)	594	1					1		3
38 *Rye, village*	3,964			1		2	4	1	33
65 Scarsdale	1,300	1		2				1	9
66 Somers	1,228	2		4					13
67 White Plains (02)	1,141			3			1		8
68 Yorktown	3,020	6		4			1	1	23
Bloomingdale Asylum, White Plains (5902)						1	2		21
Sing Sing Prison (5905)		4					3		10
State Reformatory for Women, Bedford (5950)									1
Total, villages		38	9	56	2	21	45	28	381
Total, towns		124	10	52	1	11	35	25	406

Digitized by Google

Table 18 — STATE OF NEW YORK: ***District numbers, popula***

DISTRICT (Population, April 15, 1910)		Total deaths, all causes	Typhoid fever	Malaria	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza
60 WYOMING COUNTY	21,880	411				1		1	8
50 Arcade	837	15							1
20 Arcade, village	*1,294*	*16*							*1*
51 Attica	880	8							
21 Attica, village	*1,869*	*25*							
52 Bennington	1,742	13				1			
53 Castile	1,102	11							
22 Castile, village	*1,040*	*19*							
23 Perry, village (61)	*4,238*	*42*						*1*	
54 Covington	923	5							
55 Eagle	1,141	25							
56 Gainesville	1,389	13							1
24 Gainesville, village	*327*	*6*							
25 Silver Springs, village	*974*	*9*							
57 Genesee Falls	615	8							
58 Java	1,633	21							1
59 Middlebury	1,395	23							
60 Orangeville	952	21							1
61 Perry (23)	1,236	19							1
62 Pike	772	12							1
26 Pike, village	*428*	*3*							
63 Sheldon	1,713	23							1
64 Warsaw	1,102	9							
27 Warsaw, village	*3,206*	*56*							
65 Wethersfield	928	9							
Total, villages		176						1	1
Total, towns		235				1			7
61 YATES COUNTY	18,642	275					1		11
50 Barrington	1,044	11							2
51 Benton	1,821	19							
20 Penn Yan, village (55)	*4,597*	*80*							*3*
52 Italy	861	7							1
53 Jerusalem	2,444	38							1
54 Middlesex	1,122	8							
55 Milo (20)	1,702	27							
56 Potter	1,156	15							
(21) Rushville, village (3456)	*(pt. 339)*	*14*							*1*
57 Starkey	1,310	17					1		1
22 Dundee, village	*1,288*	*22*							*2*
58 Torrey	673	12							
23 Dresden, village	*345*	*5*							
Total, villages		121							6
Total, towns		154					1		5

Digitized by Google

tion (U. S. Census, April 15, 1910), deaths, etc.— (Continued)

DISTRICT (Population, April 15, 1910)		Pulmonary tuberculosis	Other forms of tuberculosis	Cancer	Cerebrospinal meningitis	Broncho-pneumonia	Lobar pneumonia and unqualified	Diarrhea (under 2 years of age)	All other causes
49 WYOMING COUNTY	31,880	15	6	37	1	7	21	8	306
50 Arcade	837						1		13
20 Arcade, village	*1,294*	*1*		*2*					*12*
51 Attica	880								8
21 Attica, village	*1,869*			*2*		*2*			*21*
52 Bennington	1,742	2		1			1		8
53 Castile	1,102								11
22 Castile, village	*1,040*		*1*	*4*					*14*
23 Perry, village (61)	*4,388*	*6*		*4*			*1*	*3*	*27*
54 Covington	923			4					1
55 Eagle	1,141		1	2			3	1	18
56 Gainesville	1,389					1	3		8
24 Gainesville, village	*327*			*2*					*4*
25 Silver Springs, village	*974*						*1*		*8*
57 Genesee Falls	615					1			7
58 Java	1,633			4			1	1	14
59 Middlebury	1,395	1		1		1	1		19
60 Orangeville	952	1		2			2		15
61 Perry (23)	1,236	1	1						16
62 Pike	772			1					10
26 Pike, village	*422*								*3*
63 Sheldon	1,713	1	1	2			4	3	11
64 Warsaw	1,102	1					1		7
27 Warsaw, village	*3,206*	*1*	*2*	*5*	*1*	*2*	*2*		*43*
65 Wethersfield	928			1					8
Total, villages		8	3	19	1	4	4	3	132
Total, towns		7	3	18		3	17	5	174
61 YATES COUNTY	18,642	10	3	21		3	10	5	211
50 Barrington	1,044			1					8
51 Benton	1,821	1		1				1	16
20 Penn Yan, village (55)	*4,597*	*2*	*1*	*7*			*6*	*2*	*59*
52 Italy	861						1		5
53 Jerusalem	2,444		1	4		1			31
54 Middlesex	1,122			1		1			6
55 Milo (20)	1,702	4		2			3		18
56 Potter	1,156	1		1					13
(21) Rushville, village (3456)... (pt. 339)		*1*		*2*				*1*	*9*
57 Starkey	1,310			1				1	13
24 Dundee, village	*1,223*	*2*							*18*
58 Torrey	673					1			11
23 Dresden, village	*345*			*1*					*4*
Total, villages		4	2	10			6	3	90
Total, towns		6	1	11		3	4	2	121

Digitized by Google

Table 19 — STATE OF NEW YORK (EXCLUSIVE OF NEW YORK CITY): *Population, at certain important age periods, by counties, for cities of* 10,000 *population and rural parts of counties: April* 15, 1910

[Data supplied by the U. S. Bureau of the Census and heretofore unpublished for rural counties.]

COUNTY, CITY, AND RURAL PART OF COUNTY	All ages	Age in Years							
		Under 1	1–4	5–9	10–14	15–19	20–44	45 and over	Unknown
ALBANY COUNTY	173,666	2,869	11,098	13,634	13,772	15,444	74,664	42,014	171
Albany	100,253	1,529	6,074	7,406	7,498	8,503	45,204	22,951	88
Cohoes	24,709	479	1,653	2,109	2,044	2,619	10,603	5,154	48
Watervliet	15,074	257	1,042	1,262	1,287	1,372	6,375	3,468	11
Rural part of county	33,630	604	2,329	2,857	2,943	2,950	12,482	9,441	24
ALLEGANY COUNTY	41,412	692	2,950	3,534	3,555	3,449	14,560	12,617	55
BROOME COUNTY	78,809	1,318	4,883	5,704	5,807	6,488	32,142	22,384	83
Binghamton	48,443	820	2,871	3,302	3,377	4,071	21,133	12,805	64
Rural part of county	30,366	498	2,012	2,402	2,430	2,417	11,009	9,579	19
CATTARAUGUS COUNTY	65,919	1,296	5,092	6,024	60,065	6,092	23,815	17,467	63
Olean	14,743	329	1,229	1,393	1,309	1,406	5,966	3,079	32
Rural part of county	51,176	967	3,863	4,631	4,756	4,686	17,849	14,388	36
CAYUGA COUNTY	67,106	1,053	4,398	4,398	4,915	5,507	26,313	19,501	91
Auburn	34,668	609	2,353	2,388	2,303	2,967	15,786	8,255	7
Rural part of county	32,438	444	2,045	2,510	2,612	2,540	11,027	11,246	14
CHAUTAUQUA COUNTY	105,126	2,067	8,204	9,403	9,014	9,260	40,062	26,980	136
Dunkirk	17,221	481	1,765	1,851	1,539	1,512	7,012	3,032	29
Jamestown	31,297	529	2,227	2,472	2,452	2,886	13,702	6,962	67
Rural part of county	56,608	1,057	4,212	5,080	5,023	4,862	19,348	16,986	40
CHEMUNG COUNTY	54,669	815	3,282	3,980	4,215	5,215	22,962	14,846	47
Elmira	37,176	530	2,114	2,589	2,694	3,764	16,194	9,252	39
Rural part of county	17,486	285	1,168	1,391	1,521	1,451	6,068	5,594	8
CHENANGO COUNTY	35,575	554	2,139	2,543	2,666	2,713	13,000	11,932	28
CLINTON COUNTY	48,230	996	4,067	5,138	4,737	4,497	17,858	10,868	69
Plattsburg	11,138	192	720	1,001	992	1,049	4,948	2,230	6
Rural part of county	37,092	804	3,347	4,137	3,745	3,448	12,910	8,638	63
COLUMBIA COUNTY	43,658	697	2,715	3,254	3,473	4,125	16,683	12,699	12
Hudson	11,417	191	698	740	837	1,235	4,894	2,818	4
Rural part of county	32,241	506	2,017	2,514	2,636	2,890	11,789	9,881	8
CORTLAND COUNTY	29,249	492	1,788	2,233	2,190	2,338	11,030	9,146	32
Cortland	11,504	186	673	804	785	937	4,924	3,190	5
Rural part of county	17,745	306	1,115	1,429	1,405	1,401	6,106	5,956	27
DELAWARE COUNTY	45,575	817	3,175	3,952	3,950	3,844	16,545	13,231	61
DUTCHESS COUNTY	87,661	1,387	5,701	7,129	6,672	7,207	35,003	24,436	126
Poughkeepsie	27,936	503	1,810	2,193	2,001	2,395	11,899	7,108	27
Rural part of county	59,725	884	3,891	4,936	4,671	4,812	23,104	17,328	99
ERIE COUNTY	528,985	11,268	41,862	48,394	49,189	51,819	222,153	103,531	469
Buffalo	423,715	8,973	33,284	38,312	39,137	42,049	181,788	79,738	334
Lackawanna	14,549	576	1,536	1,417	1,490	1,064	7,341	1,123	2
Rural part of county	90,721	1,719	7,042	8,665	8,862	8,706	33,024	22,570	133
ESSEX COUNTY	33,458	643	2,598	2,948	2,900	3,168	13,168	7,987	46
FRANKLIN COUNTY	45,717	1,093	4,280	5,043	4,657	4,315	16,590	9,716	33
FULTON COUNTY	44,534	724	2,716	3,239	3,265	3,724	18,116	12,709	51
Gloversville	20,642	325	1,202	1,344	1,373	1,685	9,199	5,491	23
Johnstown	10,447	172	609	732	734	895	4,359	2,927	19
Rural part of county	13,445	227	905	1,153	1,158	1,144	4,558	4,291	9
GENESEE COUNTY	37,615	741	2,708	3,160	3,055	3,255	14,030	10,623	43
Batavia village	11,613	228	872	912	873	1,056	4,675	2,985	12
Rural part of county	26,002	513	1,836	2,248	2,182	2,199	9,355	7,638	31

Digitized by Google

Table 19 — *Population at certain important age periods by counties, cities of* 10,000 *population, etc.* (*except Greater New York*): 1910 — (*Continued*)

[COUNTY, CITY, AND RURAL PART OF COUNTY	All ages	Age in Years							
		Under 1	1-4	5-9	10-14	15-19	20-44	45 and over	Unknown
GREENE COUNTY	*30,214*	*499*	*1,927*	*2,343*	*2,411*	*2,476*	*11,059*	*9,482*	*17*
HAMILTON COUNTY	*4,373*	*96*	*340*	*399*	*399*	*408*	*1,748*	*987*	*1*
HERKIMER COUNTY	*56,356*	*1,082*	*3,762*	*4,328*	*4,187*	*4,885*	*23,382*	*14,753*	*37*
Little Falls	12,278	280	780	800	756	1,323	5,799	2,517	18
Rural part of county	44,083	802	2,982	3,528	3,431	3,562	17,523	12,236	19
JEFFERSON COUNTY	*80,382*	*1,390*	*5,644*	*6,386*	*6,447*	*6,620*	*31,277*	*22,493*	*125*
Watertown	26,730	463	1,832	2,028	2,009	2,261	11,712	6,359	66
Rural part of county	53,652	927	3,812	4,358	4,438	4,359	19,565	16,134	59
LEWIS COUNTY	*24,849*	*436*	*1,789*	*2,219*	*2,199*	*2,140*	*8,476*	*7,539*	*51*
LIVINGSTON COUNTY	*38,037*	*704*	*2,702*	*3,088*	*3,072*	*3,280*	*14,394*	*10,799*	*48*
MADISON COUNTY	*39,289*	*651*	*2,547*	*3,026*	*3,059*	*3,055*	*14,015*	*12,862*	*74*
MONROE COUNTY	*283,212*	*5,274*	*19,687*	*22,437*	*22,961*	*26,146*	*123,681*	*62,877*	*159*
Rochester	218,149	4,032	15,034	16,808	17,100	20,122	98,754	46,168	136
Rural part of county	65,063	1,242	4,653	5,624	5,861	6,024	24,927	16,709	23
MONTGOMERY COUNTY	*57,567*	*1,236*	*4,041*	*4,258*	*4,290*	*5,454*	*24,300*	*13,954*	*39*
Amsterdam	31,267	805	2,453	2,312	2,323	3,197	14,353	5,811	13
Rural part of county	26,300	431	1,588	1,941	1,967	2,257	9,947	8,143	26
NASSAU COUNTY	*83,930*	*1,753*	*7,024*	*8,082*	*7,540*	*7,212*	*35,216*	*17,037*	*66*
NIAGARA COUNTY	*92,036*	*1,966*	*7,123*	*7,913*	*7,577*	*8,251*	*38,854*	*20,206*	*146*
Lockport	17,970	322	1,206	1,446	1,454	1,564	7,270	4,682	26
Niagara Falls	30,445	734	2,545	2,578	2,275	2,596	14,779	4,901	37
North Tonawanda	11,955	334	1,069	1,094	1,152	1,186	5,033	2,027	60
Rural part of county	31,666	576	2,303	2,795	2,696	2,905	11,772	8,596	23
ONEIDA COUNTY	*154,157*	*3,017*	*10,894*	*12,411*	*12,392*	*14,009*	*62,065*	*39,237*	*132*
Rome	20,497	415	1,429	1,639	1,600	1,883	8,626	4,887	18
Utica	74,419	1,577	5,493	6,056	6,087	6,934	33,183	16,057	82
Rural part of county	59,241	1,025	3,972	4,716	4,755	5,192	21,256	18,293	32
ONONDAGA COUNTY	*200,298*	*3,680*	*13,902*	*15,978*	*16,072*	*17,404*	*85,371*	*47,651*	*240*
Syracuse	137,249	2,534	9,348	10,674	10,724	12,169	61,932	29,704	164
Rural part of county	63,049	1,146	4,554	5,304	5,348	5,235	23,439	17,947	76
ONTARIO COUNTY	*52,286*	*931*	*3,557*	*4,355*	*4,214*	*4,266*	*19,778*	*15,135*	*50*
Geneva	12,446	225	871	918	976	1,053	5,257	3,125	21
Rural part of county	39,840	706	2,686	3,437	3,238	3,213	14,521	12,010	29
ORANGE COUNTY	*116,001*	*2,021*	*7,719*	*9,525*	*9,750*	*10,592*	*48,366*	*27,796*	*232*
Middletown	15,313	249	827	1,046	1,222	1,397	6,587	3,952	33
Newburgh	27,805	417	1,756	2,241	2,381	2,632	11,672	6,679	27
Rural part of county	72,883	1,355	5,136	6,238	6,147	6,563	30,107	17,165	172
ORLEANS COUNTY	*38,000*	*551*	*2,357*	*2,676*	*2,658*	*2,889*	*11,595*	*9,239*	*55*
OSWEGO COUNTY	*71,664*	*1,243*	*5,075*	*5,863*	*5,956*	*6,294*	*26,234*	*20,877*	*122*
Fulton	10,420	178	798	819	809	1,013	4,300	2,534	29
Oswego	23,368	435	1,637	1,922	1,987	2,170	9,510	5,683	24
Rural part of county	37,816	630	2,640	3,122	3,160	3,111	12,424	12,660	69
OTSEGO COUNTY	*47,216*	*731*	*2,868*	*3,452*	*3,468*	*3,536*	*17,144*	*15,987*	*30*
PUTNAM COUNTY	*14,665*	*212*	*991*	*1,172*	*1,075*	*1,244*	*6,183*	*3,780*	*8*
RENSSELAER COUNTY	*122,276*	*1,916*	*7,496*	*9,514*	*9,900*	*11,237*	*50,642*	*31,544*	*27*
Rensselaer	10,711	159	664	867	956	971	4,499	2,595	....
Troy	76,813	1,198	4,641	5,900	6,062	7,175	33,540	18,279	18
Rural part of county	34,752	559	2,191	2,747	2,882	3,091	12,603	10,670	9

Digitized by Google

Table 19 — *Population at certain important age periods by counties, cities of* 10,000 *population, etc.* (*except Greater New York*): 1910 — (*Concluded*)

COUNTY, CITY, AND RURAL, PART OF COUNTY	All ages	Age in Years							
		Under 1	1–4	5–9	10–14	15–19	20–44	45 and over	Unknown
ROCKLAND COUNTY	46,873	864	3,572	4,990	4,978	4,238	18,199	9,980	53
ST. LAWRENCE COUNTY	89,005	1,731	6,643	7,982	7,690	7,781	32,208	24,876	84
Ogdenburg	15,933	321	1,078	1,324	1,273	1,356	6,149	4,416	16
Rural part of county	73,072	1,410	5,565	6,658	6,417	6,425	26,059	20,460	78
SARATOGA COUNTY	61,917	1,040	4,196	5,015	4,972	5,324	24,313	17,007	37
Saratoga Springs, village	12,693	171	717	928	1,000	1,039	5,124	3,760	14
Rural part of county	49,224	869	3,479	4,087	3,972	4,285	19,189	13,307	36
SCHENECTADY COUNTY	88,255	1,367	7,688	8,108	6,889	6,942	41,616	15,041	84
Schenectady	72,826	1,550	6,309	6,568	5,554	5,680	35,434	11,661	72
Rural part of county	15,409	317	1,379	1,540	1,335	1,262	6,182	3,380	14
SCHOHARIE COUNTY	23,855	344	1,447	1,800	1,907	1,880	7,997	8,467	13
SCHUYLER COUNTY	14,004	216	881	1,020	1,063	1,052	4,845	4,925	1
SENECA COUNTY	26,972	393	1,553	1,898	1,877	1,893	9,863	9,481	[illegible]
STEUBEN COUNTY	83,362	1,471	5,702	6,846	6,675	7,032	30,759	24,854	83
Corning	13,730	283	1,041	1,218	1,117	1,217	5,934	2,913	7
Hornell	13,617	237	856	1,041	999	1,156	5,865	3,456	7
Rural part of county	56,015	951	3,805	4,587	4,559	4,659	18,960	18,485	9
SUFFOLK COUNTY	96,138	1,692	6,428	8,093	7,991	7,950	38,214	25,769	[illegible]
SULLIVAN COUNTY	33,808	569	2,604	3,233	3,289	2,955	12,079	9,019	60
TIOGA COUNTY	25,624	400	1,517	1,905	1,924	2,036	8,866	8,948	[illegible]
TOMPKINS COUNTY	33,647	481	2,020	2,421	2,413	2,667	12,650	10,957	38
Ithaca	14,802	188	837	978	972	1,218	6,196	4,394	19
Rural part of county	18,845	293	1,183	1,443	1,441	1,449	6,454	6,563	19
ULSTER COUNTY	91,769	1,615	6,197	7,791	7,989	8,643	36,901	22,570	62
Kingston	25,908	413	1,706	2,176	2,254	2,637	10,464	6,247	11
Rural part of county	65,861	1,202	4,491	5,615	5,735	6,006	26,437	16,323	52
WARREN COUNTY	32,223	554	2,190	2,654	2,569	2,861	12,805	8,525	65
Glens Falls	15,243	238	978	1,126	1,143	1,342	6,588	3,789	39
Rural part of county	16,980	316	1,212	1,528	1,426	1,519	6,217	4,736	26
WASHINGTON COUNTY	47,778	869	3,199	3,972	3,913	4,125	18,102	13,565	33
WAYNE COUNTY	50,179	879	3,240	3,853	3,899	4,185	18,948	15,152	23
WESTCHESTER COUNTY	683,055	6,286	23,344	26,613	25,299	25,210	124,736	51,298	175
Mt. Vernon	30,919	635	2,429	2,835	2,840	2,813	13,135	6,209	23
New Rochelle	28,867	696	2,425	2,659	2,539	2,577	13,257	4,703	11
Ossining village	11,480	193	720	780	767	915	5,553	2,550	[illegible]
Peekskill village	15,245	264	1,295	1,807	1,753	1,313	5,754	3,052	[illegible]
Port Chester, village	12,809	368	1,223	1,349	1,153	1,136	5,399	2,168	13
White Plains, village	15,949	370	1,305	1,329	1,181	1,289	7,441	2,967	67
Yonkers	79,803	2,007	6,971	7,815	7,214	7,734	35,746	12,373	43
Rural part of county	87,983	1,753	6,976	8,039	7,852	7,433	38,451	17,370	109
WYOMING COUNTY	31,880	572	2,139	2,541	2,588	2,792	11,852	9,371	25
YATES COUNTY	18,648	275	1,177	1,380	1,446	1,409	6,587	6,355	13

Digitized by Google

PROCEEDINGS

OF THE

FOURTEENTH ANNUAL CONFERENCE

OF THE

SANITARY OFFICERS OF THE

STATE OF NEW YORK

Digitized by Google

Digitized by Google

PROGRAM

Tuesday, September 15, 11 a. m.

HERMANN M. BIGGS, M.D.
Commissioner of Health, presiding

THE HEALTH DEPARTMENT AND THE STATE
HON. MARTIN H. GLYNN
Governor

SARATOGA AS A HEALTH RESORT
GEORGE FOSTER PEABODY
Chairman, New York State Reservation, Saratoga Springs

THE THERAPEUTIC USES OF THE SARATOGA MINERAL SPRINGS
ALBERT W. FERRIS, M.D.
Director, New York State Reservation, Saratoga Springs

THE DEPARTMENT OF EDUCATION AND THE VACCINATION LAW
THOMAS E. FINEGAN, LL.D.
Assistant Commissioner of Education, Albany

THE PHYSICAL EXAMINATION OF SCHOOL CHILDREN

1 MISS JULIA C. LATHROP
Chief, Children's Bureau, Washington, D. C.

2 LEONARD P. AYRES, Ph.D.
Director, Division of Statistics and Education, Russell Sage Foundation

3 S. JOSEPHINE BAKER, M.D.
Director, Bureau of Child Hygiene, New York City Department of Health

Tuesday, September 15, 2 p. m.

HERMANN M. BIGGS, M.D.
Commissioner of Health, presiding

QUALIFICATIONS AND TRAINING OF THE PUBLIC HEALTH OFFICIAL

1 A. C. ABBOTT, M.D.
Professor of Hygiene, University of Pennsylvania

2 GEORGE C. WHIPPLE, C. E.
Professor, Sanitary Engineering, Harvard University and Massachusetts Institute of Technology

THE DIAGNOSIS OF CONTAGIOUS DISEASES
ALVAH H. DOTY, M.D.
Formerly Health Officer of the Port of New York

Digitized by Google

THE TRAINING OF PHYSICIANS WHO ENTER PUBLIC HEALTH SERVICE

JOHN W. TRASK, M.D.

Assistant Surgeon-General, United States Public Health Service, Washington, D. C.

Tuesday, September 15, 4 p. m.

Special excursions to Saratoga Springs sewage disposal plant and to New York State Reservation. Members and guests of the Conference desiring to take part in these excursions must notify Professor C.-E. A. Winslow, Director, Division of Publicity and Education, New York State Department of Health, Albany, before September 11.

Tuesday, September 15, 6.45 p. m.

Reception to the Public Health Council at United States Hotel

Tuesday, September 15, 7.30 p. m.

Dinner at the United States Hotel

Members and guests of the Conference who are not guests of the United States Hotel may attend the dinner by the payment of $1.50 per plate

Tuesday, September 15, 8.30 p. m.

THE HEALTH DEPARTMENT AND THE PHYSICIAN

HERMANN M. BIGGS, M.D.

Commissioner of Health

THE DEPARTMENT OF EDUCATION AND THE SCHOOL CHILD

JOHN H. FINLEY, LL.D.

Commissioner of Education

THE MAINTENANCE OF THE EDUCATIONAL STANDARD IN MEDICINE

AUGUSTUS S. DOWNING, LL.D.

First Assistant Commissioner of Education

THE HEALTH DEPARTMENT AND THE PUBLIC

W. A. EVANS, M.D.

Formerly Commissioner of Health of Chicago; Director, Health Department of the Chicago Tribune

Wednesday, September 16, 10 a. m.

LINSLY R. WILLIAMS, M.D.

Deputy Commissioner of Health, presiding

FARM SANITATION

PROFESSOR HENRY N. OGDEN

Professor, Sanitary Engineering, Cornell University; Member of Public Health Council

Digitized by Google

THE HEALTH OFFICER AND THE TUBERCULOSIS PROBLEM IN RURAL COMMUNITIES, WITH A PRACTICAL DEMONSTRATION OF PHYSICAL DIAGNOSIS OF EARLY PULMONARY TUBERCULOSIS

S. A. KNOPF, M.D.
New York City

Discussion opened by Dr. Horace J. Howk, Superintendent, Metropolitan Insurance Company Sanatorium

Wednesday, September 16, 11 a. m.

a CITY HEALTH OFFICERS' SECTION

PROFESSOR C.-E. A. WINSLOW

Director, Division of Publicity and Education, presiding

THE HEALTH BUDGET AND ITS APPORTIONMENT

PROFESSOR C.-E. A. WINSLOW
Director, Division of Publicity and Education, New York State Department of Health

Discussion by

CHARLES C. DURYEE, M.D.
Sanitary Supervisor

F. E. FRONCZAK, M.D.
Commissioner of Health, Buffalo

b VILLAGE AND TOWN HEALTH OFFICERS' SECTION

MR. THEODORE HORTON

Director, Division of Sanitary Engineering, presiding

WORK AND FACILITIES OF THE BACTERIOLOGICAL LABORATORY

A. B. WADSWORTH, M.D.
Director, Bacteriological Laboratories and Research, New York State Department of Health

ISOLATION AND DISINFECTION DURING AND AFTER COMMUNICABLE DISEASE

1 EDWARD CLARK, M.D.
Sanitary Supervisor

2 T. E. BULLARD, M.D.
Health Officer, Schuylerville

FARM SANITATION

1 H. H. CRUM, M.D.
Sanitary Supervisor

2 H. GENUNG, M.D.
Health Officer, Freeville

It is hoped that these subjects may be fully and freely discussed from the floor. All members of the Conference are requested to take part in the proceedings of this day. Discussion, however, will be limited to three minutes.

Digitized by Google

Wednesday, September 16, 2 p. m.

HERMANN M. BIGGS, M.D.
Commissioner of Health, presiding

THE BACTERIOLOGY OF MILK AND MILK AS A METHOD OF INFECTION

WILLIAM H. PARK, M.D.
Director, Laboratories, Department of Health, New York City

THE SCORING OF DAIRIES

MR. ERNEST KELLY
Dairy Division of the United States Department of Agriculture, Washington, D. C.

THE IMPORTANCE OF PURE MILK FOR INFANTS AND INFANT FEEDING

H. L. K. SHAW, M.D.
Director, Division of Child Hygiene, New York State Department of Health

THE MILK REGULATIONS OF THE NEW YORK STATE SANITARY CODE

LINSLY R. WILLIAMS, M.D.
Deputy Commissioner of Health

Discussion

Wednesday, September 16, 5 p. m.

Reception to ladies attending the conference, by the Managers of the Saratoga Springs Casino

Thursday, September 17, 10 a. m.

SECTIONAL MEETINGS OF THE CONFERENCE UNDER THE DIRECTION OF THE SANITARY SUPERVISORS

Programs will be furnished later. Place of meeting will be announced on the Bulletin Board at Headquarters.

NOTE.— Health Officers who do not attend a local Conference will attend a general Conference at the same hour.

THE HEALTH OFFICER AND THE SANITARY SUPERVISOR

LINSLY R. WILLIAMS, M. D.
Deputy Commissioner of Health

THE SANITARY SURVEY AND COMMUNICABLE DISEASES

F. M. MEADER, M.D.
Director, Division of Communicable Diseases, New York State Department of Health

Digitized by Google

REGISTRARS' MEETING

OPENING OF SESSION AND REMARKS ON IMPORTANT DUTIES OF THE LOCAL REGISTRAR

CRESSY L. WILBUR, M.D.
Director, Division of Vital Statistics, New York State Department of Health

HOW LEGAL CORRECTIONS OF ERRONEOUS VITAL RECORDS ARE MADE IN NEW YORK CITY

WILLIAM H. GUILFOY, M.D.
Registrar of Records of Greater New York

THE TRAINING OF LOCAL REGISTRARS IN PUBLIC HEALTH SERVICE; HOW THE VITAL STATISTICS LAW OF PENNSYLVANIA IS ENFORCED

WILMER R. BATT, M.D.
State Registrar, Harrisburg, Pa.

GENERAL DISCUSSION ON THE REORGANIZATION OF THE VITAL STATISTICS SERVICE OF THE STATE OF NEW YORK

Discussion opened by DR. WILBUR

Practical questions on all phases of registrars' work are solicited. They should be handed or mailed to Dr. Wilbur as early as possible.

Thursday, September 17, 1 p. m.

Luncheon at United States Hotel, under auspices of the State Sanitary Officers' Association

Toastmaster, President Otto Pfaff, M.D., Oneida.

REVIEW OF THE PUBLIC HEALTH LAW AND THE LOCAL HEALTH OFFICER

HERMANN M. BIGGS, M. D.
Commissioner of Health

THE ENLISTMENT OF THE PUBLIC ON THE PUBLIC HEALTH CAMPAIGN

PROFESSOR C.-E. A. WINSLOW
Director, Division of Publicity and Education, New York State Department of Health

Thursday, September 17, 2.30 p. m.

Meeting of the New York State Sanitary Officers' Association

WHAT THE NEW YORK STATE SANITARY OFFICERS' ASSOCIATION HAS DONE FOR PUBLIC HEALTH

T. E. BULLARD, M.D.
Schuylerville

THE FUTURE OF THE NEW YORK STATE SANITARY OFFICERS' ASSOCIATION

MONTGOMERY E. LEARY, M.D.
Rochester

Digitized by Google

Proceedings of the Fourteenth Annual Conference of the Sanitary Officers of the State of New York Held at United States Hotel, Saratoga Springs, N. Y., September 15-17, 1914

The Conference was called to order by Commissioner Biggs at 11 A. M., on Tuesday, September 15, 1914, Commissioner Biggs presiding.

COMMISSIONER BIGGS — *His Excellency, the Governor, Ladies and Gentlemen, and Colleagues of the State Department of Health:* It is my great pleasure and peculiar privilege in opening this, the Fourteenth Annual Conference of the Health Officers of the State of New York, to extend to each of you the greetings of the State Department of Health. We intend that this shall be a notable event in the history of the State Department. The revised Public Health Law has been in effect for more than a year, but it is only six months since the reorganization of the Health Department was undertaken. And in a work of such difficulty and such magnitude progress must be slow. And where one is looking for permanency, haste is unwise. It is difficult to find men of scientific training and necessary technical experience to fill the kind of positions which we have as Directors of the Divisions of the State Department of Health, and the positions of Sanitary Supervisors. I think I am well within the truth in saying that never before in the history of any State has there been gathered such a group of sanitary experts in the State as New York State now has. And I believe that this augurs well for the physical welfare of the State.

A glorious task but a great responsibility has been placed upon us — upon the staff of the Department and upon you, the Health Officers of the State, the people have entrusted the health and lives of 5,000,000 people to our care. We must each of us see that the duty which has been imposed upon us is properly discharged. We should place before ourselves some definite task

Digitized by Google

to achieve. Some years ago I suggested to the New York City Board of Health that the Department should adopt the motto "Public Health Is Purchasable. Within Natural Limitations Any Community Can Determine Its Own Death Rate." We have adopted this also, and with the cooperation of his Excellency, the Governor, and of the Legislature, and the people of this State, with appropriations which shall be adequate for the purpose, we believe that we can produce results which will satisfy the people. Public health is purchasable — and we have placed upon ourselves the task of saving 25,000 lives within the next five years. With your cooperation and the cooperation of the people of the State, we believe that this can be easily attained.

We count ourselves fortunate in having with us today at the opening of this Conference, his Excellency the Governor.

Digitized by Google

THE HEALTH DEPARTMENT AND THE STATE

Hon. MARTIN H. GLYNN

Governor, State of New York

There is hardly a body of men in the world that I dread more to address than a body of physicians. Newspaper men, lawyers and artists, their perceptive powers are on the surface; but every time I face an audience of physicians I think that I am facing an X-ray machine in the head of every man in front of me. I have the feeling that the physicians can look clean through a man and see his heart, and his head and his intentions.

I have been wondering what inspired your enthusiastic reception as I arose, and I have a suspicion, Dr. Biggs, that it was that veto of the Christian Science bill. Well, I am glad that veto made some friends, because it made many enemies in other quarters. But while I am Governor, no man will practice medicine in this State by simply hanging out the sign "Healer." I am opposed to "heelers" in politics, and I am against "healers" in medicine, my friends.

I know you are all here for business and serious business, but I am wondering how many of you have read John G. Saxe's poem on "What They Do at Saratoga." You are physicians, and I suppose you do not need advice from me not to do what the people did in Saxe's poem at Saratoga.

In 1776 Thomas Jefferson said that all men were created equal, and that all men were entitled to life, liberty and the pursuit of happiness. Since 1776 New York and the Nation have taken magnificent care of the propositions of liberty. I am not quite so sure, however, that either the Nation or New York State has taken the care it should have of the people's lives and of the people's happiness. With happiness we make synonymous the word "health," but for whatever deficiency New York has been guilty in the past, it is trying to make amends now by enacting, in my opinion, the best code of health laws under the sun. New York has a happy way of contributing largely to the happiness and to the welfare of the Nation. Do you realize, my

Digitized by Google

friends, that this great old State of ours contributes more apples to the Nation than all the rest of the United States beyond the Missouri river? Do you realize that one county in this State produces more grapes than any State in the Nation except one? And that we produce more hops than any other State but one? So don't you see that with the apples, the grapes and the hops we contribute greatly to the happiness and the exhilaration of the Nation? We give the grapes to those who want grape juice or champagne; the apples to those who want a little hard cider; and the hops are for those who want to take their bread in liquid form instead of from the oven.

But we do not stop there. Under the spurring and the watching and the urging of George Foster Peabody we are spending a million and a half dollars for those people who want to use water, externally and internally, and I believe that in spending that million and a half on Saratoga Springs we are doing a great thing for the health and the happiness not only of the State but of the Nation. Last winter an expert spent some time here at Saratoga — one of the greatest experts on mineral springs in Europe. Mr. Peabody, to accelerate another appropriation from the State Treasury, brought this distinguished physician to the Executive Mansion, and he assured me that the waters of Saratoga were more remarkable than those of Carlsbad or of any of the springs in Europe.

During the remainder of my speech I shall follow closely my manuscript, because I am facing a distinguished body of physicians, a body of scientists, and I do not wish to trust myself to extemporaneous speaking.

The influence of the State government upon the life of the individual citizen and the consequent responsibility and opportunity of its public officials become every year more and more far-reaching. Politics is no game played according to artificial rules, with offices for prizes and without bearing upon the practical affairs of men. It is a field for the highest and broadest public service, fraught with rich possibilities for the happiness and welfare of the individual citizen.

The fifteen thousand school houses which dot the plains and hillsides of our State are forming the viewpoint of our future

Digitized by Google

citizens, and the foundation they are laying will determine whether our Nation shall go forward steadfastly on its pathway of civilization, solving the problems of social adjustment and avoiding the horrors of unnecessary war. There is not a child in one of those schoolhouses who will not be a finer man or woman because John H. Finley has been made President of the University of the State of New York and Commissioner of Education.

The new labor law, which reorganized the Department of Labor and created an industrial board with power to frame specific regulations safeguarding the lives of factory workers, and the Workmen's Compensation Act more recently placed upon the statute book, vitally affect every worker in the great industrial enterprises of our State.

Ten years ago I spent a year in Germany and there I saw how they treated their injured workmen. As a boy I grew up in a country town whose principal industries were the cotton mills, and there I saw boys that I knew and girls that I grew up with lose an arm or a leg and be crippled for life. I then resolved that if ever I came into power I would try to write on the statute books of the State a law that would treat our injured soldiers of peace as well as we treat our injured soldiers of war. That I succeeded in doing. And if I never do another thing in all my life, that one accomplishment will give me recompense for all the abuse and vituperation suffered in twenty years of public life.

Under the old law, every bit of legal machinery was put in motion to prevent a workman from securing damages. I will tell you about a case this summer, so that you will see how the new law works. On July 1 of this year the new Workmen's Compensation Law went into effect, and on the very day that law went into effect a man named Althen was working on the new Equitable building in New York City on the girders of the thirty-second story. He fell and was mashed to a pulp on the stones below. His employers under the law were compelled to notify the Workmen's Compensation Commission of the accident. On the 20th of July the Workmen's Compensation Commission awarded his widow and little girl $360 a year as long as the widow lived, and $1,630 to educate, clothe and feed that little girl

Digitized by Google

until sixteen years of age. Under the old law the workman waited five years and received nothing; under the new law the widow learns in twenty days that she is to receive $360 a year as long as she lives and $1,630 to care for her little girl until she is sixteen years old. But I have not told you the dramatic part of the story. When the Commission sent a letter to Mrs. Althen the letter was returned marked "This party is unknown here." One of the Commissioners went to the house and was told that Mrs. Althen was distracted with trouble and worry over her husband's death, and that she had taken her little child and gone back to her parents in Pennsylvania. What did the Commission do? They sent an inspector to look her up in Pennsylvania. They found her and handed over the money.

Under the new law there is no need of lawyers. It is not even necessary to appear before the Commission. The Commission sits upon the case, makes the award, and hunts up the widows and children, whether they are in the Catskills or Montreal or Kamchatka. This is an advance in our State government, which brings an incalculable boon to hundreds of thousands of men and women who toil in the mills and workshops.

There is no activity of the State government, however, which is fraught with richer possibilities of good to the individual citizen, no activity which has been nearer to my heart since I have been Governor of this State, than the interest which gathers you all together here today — the protection of the public health.

Public health is a vague and general term, and the statistics which to you measure its importance, scarcely catch the attention of the ordinary man. Twenty-five thousand babies under one year of age died in this State last year and you tell us that at least forty per cent. of this slaughter of the innocents was needless. Think of it — twenty-five thousand homes, a whole city the size of Albany — and each home desolated by the sorrow of a little baby's death.

Typhoid and scarlet fever and diphtheria and measles take their toll by the hundreds, tuberculosis by its thousands. Sometimes as I pass through the beautiful Mohawk valley or down the rugged banks of the Hudson I look from the car windows at the villages and farm houses as they flash by and I wonder where the Angel of Death will next unsheathe his flaming sword.

Digitized by Google

Remember that I am speaking now not of the common lot of man, old age and the slow flickering of the vital flame, but of the premature deaths, the needless deaths due to the neglect of hygienic precautions, and the spread of communicable disease. A large part of the death rate from the diseases of childhood, from tuberculosis, from typhoid fever, from scarlet fever, measles and diphtheria and the like could be prevented by the application of the simple and definite knowledge which you possess. We are not dealing with intangible, statistical units, but with men and women and children, tens of thousands of them, who are alive and well today and who will be dead within a year if you soldiers of the public health cannot reach their sides to save them.

As the Governor of this State and as a member of the party which has controlled its government for the last two years, there is no single thing in which I take more pride than the steps we have taken to forward this splendid war against disease.

The new Public Health Law enacted in 1913 is universally recognized as marking an epoch in health administration in the United States. States like Massachusetts, which have long boasted of leadership, recognize its superiority and hasten to abandon their own systems to copy its provisions. The two outstanding problems of State health administration have been the difficulty of securing effective but flexible legislation and the difficulty of adjusting local and state reponsibility in administration; and both these problems we feel that we have solved.

The details of public health legislation are far too technical to be worked out in a legislative committee room or in a city council chamber, and yet they are too important to be left to any single administrative head, however capable. Our law, therefore, provides for a Public Health Council of seven members — upon which it has been possible to secure the services of some of the most eminent experts in the United States — who are charged with no administrative duties but with the formulation of a sanitary code to carry out in detail the general provisions of the Public Health Law. The first chapters of this Code are already in your hands and before long an entire State will for the first time be under the beneficent operation of a uniform and complete and scientific sanitary code.

Digitized by Google

The other special feature of the new Health Law is its admirable adjustment of the relations between local and State sanitary authorities. It leaves the local responsibility for local health conditions unimpaired and requires a decent remuneration of the local health officers whose devoted services have never before received a fraction of the recompense which they deserved. At the same time by the establishment of a corps of Sanitary Supervisors it supplies the local officer with the scientific knowledge and the moral backing of the State.

Wise laws make progress possible but they will not carry us far without the right men to administer their enforcement. I count it as one of the most notable achievements of my administration that I have been able to place the new machinery of the reorganized State Health Department in the hands of the one man in the United States most capable of handling it with power and effectiveness. Dr. Hermann M. Biggs is the man who made the New York City Health Department one of the finest municipal departments in the world, and at great personal sacrifice he has been persuaded to bring his sound wisdom and ripe experience to the rendering of a similar service to the State.

Dr. Biggs has succeeded in surrounding himself with a group of associates such as have perhaps never been gathered together before for a similar task, men who like him are sacrificing more lucrative opportunities, or who are giving up positions with the government at Washington or university careers of long standing — all of them inspired by the possibilities of public service, which are offered by the health situation in our State.

Already the work of this Department has begun with encouraging success. The Infant Welfare campaign which was organized last spring has stirred the State from one end to the other, and when the statistics for the year are made up it looks by the preliminary returns as if we should be able to show a saving of child life worth ten times the cost of the whole health organization of the State.

I am pleased as an old newspaper man to see that the Health Department and the School and the Public Press are standing side by side in this good fight. The Monthly Bulletin of the State Department of Health has been, as you know, popularized, and is sent to every school principal in the State, while a weekly

Digitized by Google

health news service is maintained in over 400 daily or weekly newspapers and over a million and a half of people are supplied directly with the sanitary knowledge which they need.

Another important result of public health activity has not escaped my attention. I refer to its economic value to the State. The cost of an epidemic far exceeds the cost of its prevention, and appropriations to be effective should be sufficient to furnish the proper authorities with the machinery to enforce such measures as will prevent them. A few concrete examples that I have in mind will illustrate my meaning.

The United States Government has expended nearly $2,000,000 a year on the health of 60,000 workers in the canal zone realizing that without such expenditure the loss of life would be proportionately as high as in the French occupation and the canal might not be built within the expected time, if ever; and in the accomplishment of such a stupendous engineering task, time is money.

Who believes that the annual expenditure of over $300 a year per capita would be justifiable in communities such as we have in this great State? But is it not possible to save not only money but human lives by the judicious expenditure of larger appropriations than are now awarded by municipal and other governments, and do not the results of the expenditure in New York City with its steadily diminishing death rate, justify its 70 cents per capita appropriation for its Health Department, and is this not true economy?

In 1911 at the port of New York 23,000 examinations were made with the result that in 28 persons cholera germs were found. A large amount of expensive work for the detection of one case of cholera in a thousand persons arriving from suspected ports, but cholera was kept out of the United States. Perhaps an expensive method, but far less expensive than the cost of a widespread epidemic and again I say, this is true economy. A severe epidemic of typhoid fever at Ithaca a number of years ago caused by an infected water supply is said to have cost the citizens of Ithaca at a conservative estimate over a million dollars in money in active expenses and loss of trade, and a filtration plant cost less than $50,000 to build for a city of that size and only several thousand a year to operate. More recently an epidemic of smallpox at

Digitized by Google

Niagara Falls cost that city $40,000 for quarantine officers and other assistance in controlling the epidemic and a loss to its citizens of hundreds of thousands of dollars in trade, and vaccination costs so little for the saving it confers.

I have spoken of the economic value and economy by the wise expenditure of the public funds for the preservation of the health and lives of its citizens, but do not for a moment think that I do not place the value of human life far above any money consideration, the pain of sickness, the suffering of the afflicted, the anxiety and torture of bereaved ones, which cannot so lightly be counted. So I repeat that the prevention of suffering and sickness may to a larger degree be obtained by larger appropriations realizing that such appropriations must be wisely spent and spent where needed.

But in order to obtain the full benefits of the Public Health Law the standards of medical work must not only be maintained but ever put upon a higher plane of efficiency. We need not only such a splendid corps of health officers as you are, but we also need a steadily increasing state of efficiency among the rank and file of the medical profession who are on the firing line in the battle against disease.

Not without some feelings of alarm have I viewed recent attempts to break down the present standard of medical education, and during the last regular session of the legislature very strong pressure was brought to bear by those who are attempting to make the qualifications for practicing medicine so easy that almost anyone who desires to be a physician only need state that he is a healer without drugs. Such attempts at lowering our medical standard are in my opinion entirely subversive to our modern ideas of medical science — I refer specifically to two bills which passed the Legislature last year. One of them would allow osteopaths to issue death certificates everywhere in spite of local ordinances to the contrary. I vetoed this bill because those desiring to practice osteopathy were so few in number that it was evident that the high standard now set for those desiring osteopathy was deterring many from entering that cult. In November 1907, osteopaths were allowed by law to practice, and all who applied for a license to practice before November 13 of that year were allowed to waive an examination. Under this

Digitized by Google

provision 413 osteopaths were admitted, but since that time only twenty-seven osteopaths have been granted licenses to practice in this State. That is an average of about four a year.

I also vetoed the bill known as the "Mental Healing Bill" which would allow any person to practice medicine who administers to or treats the sick or suffering by mental or spiritual means without the use of any drug or material remedy. Although introduced by the members of the Christian Science Church and urged by them with great force, I fully realized at the time that this would allow anyone to set himself up as a mental healer whether or not he was subject to any regularly constituted authority.

The standards must be elevated and not lowered or broken down, and I urge you to assist in maintaining and elevating the educational standards required for the practice of medicine.

In conclusion I would say that administrative action alone can achieve only limited results. Babies must be saved by the mothers who care for them; tuberculosis must be prevented by the man who works in the factory and pays rent in the tenement. If you can enlist the whole people under the banner of health the victory will be won. With such leaders as we have, and with such a band of officers as are gathered here to-day the task can be accomplished, and the burden of needless disease and death lifted from tens of thousands of our citizens. The State has given you its commissions to do this work, and as its Governor I bid you Godspeed in your splendid task.

I speak feelingly, my friends, for this reason. One of the warmest friends, the man who was closest to me, was the great Albany surgeon — Dr. Willis G. MacDonald. He was a big man physically and a big man mentally, the big man of the Albany Medical College. MacDonald and I lived together for ten years. We traveled this country over and went through Europe. And I learned to see the humane side of a physician's life; I learned to see how much good a physician does among his fellowmen. I remember one day when MacDonald lay sick on his bed, and I was with him, the telephone rang. It was a call from a prominent physician in Springfield. He said, "We have a patient here, and Richardson of Boston has advised that you be called in.

Digitized by Google

There is a fee of $2,500, Doctor, if you will come to Springfield to-morrow and operate." MacDonald spoke a few minutes asking questions about the physical condition of the patient. And his reply was — "I think an operation not immediately necessary; I am too sick to come." And the physician in Springfield repeated, "There is a fee of $2,500 if you come and operate." And MacDonald said "I am too sick to come." And then our telephone rang again and I answered the telephone for MacDonald. It was a call from Amsterdam, New York. It was from a young physician there who said, "We have a poor woman here, a widow who supports herself and six children by taking in washing. Yesterday afternoon, while taking the clothes down the steps of her house she slipped and fractured her skull. She is in bad condition and none of the physicians here can do anything for her. Can you come?" MacDonald suggested that they call in some other Albany physician. But all the other noted Albany surgeons were out of town. And the young physician said, "Unless you can come by to-morrow noon the woman will die." And MacDonald, on his sick bed, said, "If I am well enough to-morrow morning I will take the six o'clock train to Amsterdam." And at five o'clock, sick as he was, MacDonald summoned Draper, his assistant, took the train to Amsterdam, operated on the woman and saved her life. And, my friends, he did not get a single cent, not one single cent, and in fact paid his own expenses, after refusing to go to Springfield and operate for $2,500. This is the sort of action which has caused me to love and respect the medical profession. I have the greatest respect in the world for ministers and I respect the teacher — but I believe that man who carries highest, the man who carries best the banner of humanity, that man who best writes himself down as one who loves his fellowmen, is the physician,— more than the minister or the teacher or any other man.

This is the reason I believe in the preservation of high standards of medical education. If the Legislature of this State has one great responsibility it is to preserve the medical standard of the State, and my efforts will always be directed to that same end. But let me give you a little advice as a practical — I was going to say politician, but will say statesman.

Digitized by Google

You have something to do yourselves. I do not want to scold or to chide you, but when I think how many physicians there are in this State, more than 15,000 of them, with all their influence and knowing the value of maintaining the medical standards of this State, and remember that you were sleeping or dormant while cults were forcing these bills through the Legislature, I feel that you almost deserve that such measures should have become laws. Those laws should not have been allowed to get to the Executive Chamber. It wasn't fair to the Governor to allow them to come and it wasn't fair to yourselves to allow them to come. I suppose you have a legislative committee. Well, if you have, make it bigger, busier and better, and preserve yourselves.

Now let me close with one thing that isn't medicine, but an echo of what you stand for, you and everyone who wishes to help along his fellowman. It is an echo from Schiller, the great German poet:

"There are three words that I would write,
Three words, as with a burning pen,
In tracings of eternal light,
Upon the hearts of men.

"Have Hope though clouds environ now,
And gladness hides her face in scorn,
Put thou the shadow from thy brow —
No night but hath its morn.

"Have Faith, where'er thy bark is driven,
The calm's disport, the tempest's mirth —
Know this — God rules the hosts of heaven,
The inhabitants of earth.

"Have Love. Not love alone for one,
But man as man, thy brother call,
And scatter, like the circling sun,
Thy charities on all."

COMMISSIONER BIGGS — I know that you will all consider this a very great privilege. I know that I am voicing the sentiments of the Health Officers in this State when I express our very sincere appreciation of the admirable address given by our distinguished Chief Executive. It will serve as an inspiration to us all in the medical profession to know that we have a Chief Executive who is in sympathy with the work that we are trying to do; whose coöperation and assistance is ever at hand, and who is prepared to protect the standards of medicine in this State. I am sure you will all join me in a rising vote of thanks to the Governor for this address. (Rising vote taken.)

New York State has been very slow in recognizing the fact that it possesses in Saratoga possibilities for one of the greatest health resorts of the world. And in selecting the place for this Conference, we felt that no place in the State could be so fittingly chosen for this meeting as this. For it is important that the health officers of the State should know what the possibilities of Saratoga are as a health resort. Hon. George Foster Peabody, Chairman of the New York State Reservation, will tell you something of Saratoga as a health resort.

Digitized by Google

SARATOGA AS A HEALTH RESORT

GEORGE FOSTER PEABODY

Chairman, New York State Reservation, Saratoga Springs

I think, Governor, perhaps I can tell them why it was that they gave you such a greeting. With reference to this particular association, it was not your veto; it was that you were able to reach the conscience of this man (Dr. Biggs) and make him accept the proposition to become the leader of the reorganized forces of the State for this great purpose.

I shall say just a few words only, gentlemen, because "What Saratoga is as a Health Resort" is to be seen by you gentlemen I think to-day; and "What it Should Be as a Health Resort" will be told you by the professional mind which the State of New York is fortunate in having. The speaker who will follow me is more capable of telling you some things along lines that will be to you most interesting. I am going to speak a little from the point of view of utilizing the resources of the State, which for many years were lying not dormant originally but lying there waiting to be used as chance might order. The first generally known historical use of these waters was in 1767 when Sir William Johnson was brought here through the suggestion of the Indians. We are interested to have brought to the front lately a fact which is to my mind much more picturesque and dramatic in its true sense than was the picture of that warrior brought here after suffering, to try and recover from the depletion which his excesses had caused.

A greater man than he, years before had his heart touched with the love of his fellowmen and went forward in the wide wilderness to try and help that most important factor in man's conception, the minds and the souls of the aborigines, to come to know more clearly the human relation of The Great Spirit to their lives. That great man, Father Jogues, did great service to humanity, and brought great honor and glory to his church and to his Lord and Master in doing the work which many of us are glad to know of. And recently we learned that he was brought here to these springs of Saratoga in 1643 to have some of his physical difficulties helped out by Nature's own resources.

Digitized by Google

And following that was the emphasis of individualism in the development of this country, which had many unfortunate phases in its locating farms far apart and making the little red school house have too few students often times, so they didn't get all the advantages of association and effective teaching they should have had. And one of the difficulties was that these natural resources were thought to be quite capable of development through the individual chance use, where they discovered the spring. And then there came in that unfortunate element of competition. Where one man found he could get a spring by boring an artesian well, there seemed no reason why any neighbor could not get some part of that same water. The result of this extreme competition was that these gentlemen each injured the other, and the whole of the reservoir as often suggested to the minds of those who many years ago began to think of the waste of natural resources thereby. And then when the sad discovery was made by some one interested in chemistry — that the water and gas could be separated and the gas could be liquefied under pressure so it could be shipped all over the country to be used in making the soda water business profitable, and help the drug stores to pay their rent more easily, then the last sad days came upon Saratoga Springs. But apparently that was what was necessary to arouse the people of this village, and to start them to arousing the people of the State to the great practical loss that was being caused by this small individual profit-making in selling the gas by itself and throwing the waters away. And the result was that there were several hundred thousand gallons pumped every day, and thrown on the ground to soak in gradually and be evaporated, so the gas might be taken. The result was the serious injury of the waters. And this same striving to get money, something to make a living, led people to "doctor" the water that was left. So the reputation of Saratoga Springs began to suffer because people doubted the integrity of the people who sold the waters. It led up finally to this result, that the State of New York was made to realize its obligation to its citizens and to the citizens of other states to do what might be done here.

The difficulty with our legislators, as the Governor has stated, is that they are pressed upon by a great many people who do not

Digitized by Google

know as much as physicians know, to pass all kinds of legislation. And so it has been difficult to secure the legislation as rapidly as some of us here have thought proper and desirable to do, or to do as much as might have been done. But the State has made the great move forward, and has acquired the ownership of a great number of valuable springs, and has acquired information respecting the proper use of these springs and respect for the natural conditions. So there will be added to the natural resources of Saratoga Springs as a health resort this proper utilization of the waters. I think, though a layman, that perhaps I can safely say to you that during the summer of 1914 Saratoga mineral waters have been used properly for bathing for the first time since the white man came to the United States. They have been found very beneficial in the past with quite unscientific, quite ill-informed use. We have had but meager resources so far with which to utilize the waters for bathing. The reputation of the waters has been made for drinking, and unfortunately the faith in them was so strong that the people thought any one could drink any of the waters.

Digitized by Google

THE THERAPEUTIC USES OF THE SARATOGA MINERAL SPRINGS

ALBERT WARREN FERRIS, A. M., M. D.

Superintending Director, New York State Reservation, Saratoga Springs

It was Bichat who wrote of "The great tripod of human life," the brain, the lungs and the heart, thus presenting graphically to our minds the importance to vitality of cerebration, respiration and circulation. Without disordered cerebration, respiration or circulation, there must be disease or altered function.

Innervation of tissue, oxidation, and distribution of the blood determine the rate and the progress of growth, repair and efficiency of function.

Most of the diseases of the first decade of life that result in death are diseases of the respiratory tract or, less often, of the digestive organs. Most of the diseases that afflict mankind toward the end of adult life are diseases of the circulatory system: and their results are often initiated by diseases of the digestive tract or organs. Examination into the condition of the average man by the life insurance physicians reveals an astonishing amount of lowered resistance, impaired tissue and commencing disease, generally of a fatal tendency. Many years ago Dr. Wm. H. Guilfoy, Register of Records of Greater New York, prepared a scientific and interesting study of the rapid increase of arterial and cardiac disorders in New York City. Results he reached in that city are no worse than those which others have discovered in all great cities of this country. Someone has said, "Englishmen work in order to live, while Americans live in order to work." This statement is unfortunately too near the truth to be merely amusing. The result of the insistent striving for material success, for intellectual triumph, for eminence and prominence, have brought many men to a condition of reduced efficiency and even to the border of the grave, long before their usefulness should have ended, and during the period which should properly be called "the prime of life." We see many examples of the over-worked, under-slept, over-fed and under-exercised business man, literary

Digitized by Google

man or professional man, who falls a victim to arterial degeneration.

We know that cardiovascular disease is due, in a large majority of cases, to the effects of toxins developed in the digestive tract. The intestinal disorder caused by improper diet is accompanied by the presence of certain bacteria that show their principal activity in causing degeneration of the arteries or of the heart itself. Not as important, though just as fatal, pneumonia, etc., as well as disturbances in secretion, of which those occurring in kidney disease may serve as an example. Arteriosclerosis has become a familiar term to all. It is no myth; unfortunately, it is no ghost. It is a specter that stalks forth as the premonitor of decay of powers and shortening of life. It is no respecter of persons. While in the unfortunate conditions of strenuous life it accompanies the approach of old age, it is also found in comparative youth, as we know; and is all too prevalent during the best years of manhood. Virchow, alluding to arteriosclerosis, said: "A man is as old as his arteries." The physicians who can detect the approach of cardiovascular disease, the remedial measures that will retard its progress, the conditions and surroundings that will increase the patients' resistance during its development, are all of prime importance to the average American. For over forty years Germany has been offering to the world a system of treatment which retards the progress of this disease, supports and invigorates the heart and prolongs for several years the life of the unfortunate victim. This treatment was first used for certain nervous disorders and conditions of fatigue and exhaustion, and also for anemia. It was found to be of great value in circulatory derangements; and finally the Nauheim system consisting of baths, diet and exercise was elaborated. At other European resorts attention has been given to the errors of digestion and the treatment of those who had been worn and depleted by over-indulgence in "the pleasures of the table," or had suffered from faulty metabolism. At still other resorts, in the Old World, systems of baths have been elaborated for the treatment of those suffering from gout, rheumatism and arthritis. And so there has been a certain degree of specializing in diseases at various spas in England.

Digitized by Google

Many of these resorts, clustering about mineral springs, are found here and there throughout Europe. Many of the springs have been used since the time of the Romans, who well understood and constantly employed the remedial agency of baths. Here in America we have been slow in developing our own resources; while very few of us have been able to take advantage of the opportunities offered in the foreign countries. But the time was sure to come when we should awaken to a realizing sense of the great treasure hidden in the earth, bubbling forth or spouting in the air, and revealing thus its presence, while patiently awaiting the touch of development and the provision of facilities through which our long neglected mineral springs might be utilized.

The State of New York has awakened; and under the control and direction of the Commissioners of the State Reservation at Saratoga Springs, perhaps the greatest aggregate of springs in the world, is now being developed and the installation of facilities for the utilization of their remedial qualities has been begun.

For a hundred years some of the spring waters have been drunk according to the whim of fashion, or the dictate of the palate, with little medical supervision; largely because medical supervision was not sought or desired by the votary of pleasure. But now we have at hand a large number of valuable laxatives and cathartics among our mineral waters, well understood and carefully prescribed, which are suited to the necessities of those suffering from gastrointestinal disorders, acidosis, faulty metabolism, and disordered tissue change. We have valuable and effective chalybeate waters including the spring known as Karista, the strongest potable iron spring in the world of which we have any knowledge. We have also mild antiacid waters and diuretics. We have waters that are adapted to the treatment of diabetes whether it occurs in the gouty individual, the anemic or in the obese. In this disease, as in gout, rheumatism, and arthritis, the radioactivity of the waters plays an important part, as has been recently emphasized by such authorities as Saubermann and von Noorden. Our alkaline-saline waters are exactly suited to the Fischer method of treating kidney disease.

Digitized by Google

But of still more importance are the Saratoga mineral waters as used for baths. The bath is emphatically the great point. Possessing as our waters do, an unusual amount of supersaturation by carbonic oxide, reaching 1.30 volumes in almost every instance, they are of extreme value in the treatment of circulatory, cardiac and nervous disorders. We have here enough water to treat all the sufferers in the country, afflicted with these classes of diseases, and the supply is humanly speaking, inexhaustible. We lack only the facilities for treating the thousands of patients who are destined to come to us for relief. We are equipped by nature with the remedial agent which has proved of such great efficacy in the relief of arteriosclerosis and cardiac degeneration. We have in our hands the weapon with which to combat the conditions to which I have alluded, which carry to their graves, in comparatively early life, thousands of men and women, whose existence should be long and useful. Here we can offer the treatments that are given in Karlsbad, Kissingen, Nauheim, Marienbad, Harrogate and many other of the well-known European health resorts and spas.

The State of New York, as you know, projects a modern bath establishment and a central drink hall. Meanwhile the equipment of the Lincoln bath house, as now begun, will accommodate hundreds of additional patients, besides those treated at the High Rock and the Saratoga baths.

The village of Saratoga Springs, cooperating with the State, has provided a charming park, and is proceeding to eliminate the objectionable features which now stand in the way of the development of a health resort.

To sum up the therapeutic uses of our Saratoga Springs mineral waters, I would say that they are beneficial when properly prescribed for the patient studied as an individual and not merely as a case, in the following ailments: Gastric and intestinal disorders, including especially colitis; diabetes; obesity; anemia; rheumatism, gout and arthritis; certain kidney disorders; neurasthenia; and certain cardiovascular conditions including myocardial degeneration, in all cases when proper diets are enforced, proper rest is enjoined and proper exercises are followed.

Digitized by Google

We are destined to see developed here in Saratoga Springs a model health resort, an unrivaled refuge for the ill and worn, the diseased and the afflicted, from all walks of life, whether possessed of large wealth or of the most modest means, under the great seal of the State; under the sheltering wings of the eagle which typifies the protection, the strength and the wisdom of the great Commonwealth of New York.

COMMISSIONER BIGGS — There is no question the health officers of the State are more vitally interested in at this time than that of the enforcement of the vaccination law. We are fortunate in having Dr. Thomas E. Finegan, Assistant Commissioner of Education with us, who will address you on "The Department of Education and the Vaccination Law."

Digitized by Google

THE DEPARTMENT OF EDUCATION AND THE VACCINATION LAW

THOMAS E. FINEGAN
Assistant Commissioner of Education, Albany

In view of conditions existing throughout the State, what I shall say upon the Education Department and the vaccination law should be as much to the point as it must of necessity be brief. The impression prevails very generally throughout the State that there has been some recent legislation upon the subject of vaccination, that the Education Department has recently prescribed some regulations requiring that school children throughout the State shall be vaccinated before being admitted to the public schools, and that the Commissioner of Education has rendered some new decision in the interpretation of such law. There has been no recent legislation upon this subject, nor has there been a regulation of any kind promulgated in relation thereto by the Education Department. The only interpretation which has been given to this statute by the Commissioner of Education is that which has been given by every one of his predecessors since such law was first enacted. The Commissioner of Education has therefore simply followed the precedents established in the construction of this law without in any way undertaking a new interpretation. The provisions of the Public Health Law regulating the vaccination of school children were enacted in 1860. The essential features of that law were reenacted and its provisions made somewhat more drastic in 1893. When the Consolidated Laws of the State were enacted in 1909, the provisions contained in the act of 1893, in relation to vaccination of school children were reincorporated in the Public Health Law.

The subject of vaccination has been one of legislative consideration by the various States and by the national government for more than a century. Massachusetts was the first State in the Union to enact a general vaccination law, which was adopted in the year 1809. Since that time similar statutes have been

Digitized by Google

enacted by other States until now about forty have laws relating to vaccination, several of which have adopted these laws within the last ten years. There are about twenty-five States in the Union which have laws requiring children to be vaccinated in order to be entitled to the privilege of attendance upon the public schools.

The law requiring school children to be vaccinated will be found in sections 310 and 311 of the Public Health Law, chapter 49, Laws of 1909. That you may know exactly what the law is, I want to read it and then analyze it. It is as follows:

III. VACCINATION OF SCHOOL CHILDREN

(Provisions of Public Health Law [L. 1909, ch. 49] relative to vaccination.)

"Section 310. Vaccination of school children. No child or person not vaccinated shall be admitted or received into any of the public schools of the State, and the trustees or other officers having the charge, management or control of such schools shall cause this provision of law to be enforced. They may adopt a resolution excluding such children and persons not vaccinated from such school until vaccinated, and when any such resolution has been adopted, they shall give at least ten days' notice thereof, by posting copies of the same in at least two public and conspicuous places within the limits of the school government, and shall announce therein that due provision has been made, specifying it, for the vaccination of any child or person of suitable age desiring to attend the school, and whose parents or guardians are unable to procure vaccination for them, or who are, by reason of poverty, exempted from taxation in such district.

"Section 311. Such trustees or board may appoint a competent physician and fix his compensation, who shall ascertain the number of children or persons in a school district, or in a subdivision of a city school government, of suitable age to attend the common schools, who have not been vaccinated and furnish such trustees or board a list of their names. Every such physician shall provide himself with good and reliable vaccine virus with which to vaccinate such children or persons as such trustees or board shall direct, and give certificates of vaccination when required, which shall be evidence that the child to whom given has been vaccinated. The expenses incurred in carrying into effect the provisions of this and the preceding section, shall be deemed a part of the expense of maintaining such school, and shall be

Digitized by Google

levied and collected in the same manner as other school expenses. The trustees of the several school districts of the State shall include in their annual report the number of vaccinated and unvaccinated children of school age in their respective districts."

Let us now examine carefully the first sentence of this law. It reads as follows:

> "No child or person not vaccinated shall be admitted or received into any of the public schools of the State, and the trustees or other officers having the charge, management or control of such schools shall cause this provision of law to be enforced."

There is no ambiguity in the meaning of this sentence. It is a clear, forcible declaration that no unvaccinated child or person shall be admitted or received into any public school of the State. It will be observed that the language of the law is *no child or person shall be admitted or received into any public school of the State who has not been vaccinated.* These terms include not only *pupils* but *teachers, janitors* and all other persons connected in any way with the schools. There is, therefore, an absolute prohibition against the admittance of unvaccinated children to the public schools. It should also be observed that the duty of enforcing this statute is clearly and directly placed upon the trustees or other officers having charge of the management and control of the public schools. This provision of the law is mandatory for it declares that school officers *shall* "cause this provision of law to be enforced." In this one sentence, therefore, not only is the right of unvaccinated children to attend a public school prohibited but there is also the mandatory provision that school boards shall enforce such law.

Let us now examine the second sentence in this section to ascertain its exact meaning. An effort has been made recently to construe this sentence so as to give it a meaning different from that which it has always been held to mean. It reads as follows:

> "They may adopt a resolution excluding such children and persons not vaccinated from such school until vaccinated, and when any such resolution has been adopted, they shall give

Digitized by Google

at least ten days' notice thereof, by posting copies of the same in at least two public and conspicuous places within the limits of the school government, and shall announce therein that due provision has been made, specifying it, for the vaccination of any child or person of suitable age desiring to attend the school, and whose parents or guardians are unable to procure vaccination for them, or who are, by reason of poverty, exempted from taxation in such district."

It will be observed that under this provision of law school officers *may* adopt a resolution excluding unvaccinated children from school. It is now contended by some who seek to prevent the enforcement of the vaccination law, that this provision in the law, notwithstanding the mandatory provisions of the sentence preceding, gives boards of education the discretion to adopt such resolution and that if a board of education does not adopt such resolution, vaccination may not be enforced. An examination of this sentence shows that the legislature had a very definite purpose in mind when it incorporated this sentence in the vaccination law. That purpose was to make provision for the vaccination of certain children at public expense. It was contemplated, when this law was enacted, that parents, so far as possible, should provide for the vaccination of their children. It was recognized, however, that cases would arise where parents would claim that they were unable to have their children vaccinated. This provision in the law was intended to give school boards the discretion to determine whether or not there were parents in the district who were unable to meet the requirements of such law. If a board of a city or district believed such conditions existed it possessed the power to pass a resolution excluding unvaccinated children from school and such board was then required to give notice of the adoption of such resolution. This notice must specify the provision which has been made for the vaccination of children at public expense. The law recognizes two classes of such children. One class included those children whose parents were unable to provide vaccination and the other class included the children of parents who were, by reason of poverty, exempt from taxation for school purposes. When the vaccination law was enacted in 1860 vaccine virus was not manufactured under a license by, and the inspection of, the United States government

Digitized by Google

is it is today. It was often difficult for physicians to obtain virus and many physicians throughout the rural regions in particular were not supplied with it. Parents would claim that their family physicians were not supplied with virus and that they could not therefore procure vaccination for their children. The date of the enactment of this law antedates the enactment of the free school act of 1867. Before the adoption of the free school measure, the public funds apportioned to a district were applied toward the salary of the teacher. The difference between the teacher's salary and the amount of the State apportionment was assessed upon the parents on the basis of the number of days which their children had attended school. If a parent, by reason of his poverty, was unable to meet this payment and so stated, entry of such statement was made in the records of the district and the amount of tuition for such pupils became a district or city liability. It will therefore be observed that in order to make the vaccination law effective and to apply to all the children of the State, it seemed wise on the part of the Legislature to prescribe a method by which the children having parents who might claim they could not provide vaccination, and the children whose parents could not meet the expense of vaccination because of their poverty, would have no excuse for not complying with the law. Very much more might be said in support of this proposition but I will not take your time for that purpose, as I regard it sufficient to state these facts which have always been the basis of the interpretation of this law.

When a board of education has reason to believe that there are residing in its district or city pupils who might be placed in either of these classes, it is the duty of the board to pass a resolution, and to give notice of the same by posting such notice in at least two conspicuous places within the district or city. A word, perhaps, should be said upon the form of notice to be given. The object of the notice is to inform the parents of these classes of children that vaccination is required and to give them due notice of how they may comply with the law and by whom the children may be vaccinated. It has always been held in the enforcement of this law that the action of a board of education in sending a

Digitized by Google

specific notice to each parent of the district is in effect a compliance with the requirements to give notice by posting such notices in two conspicuous places. The requirement to give notice has always been held to be purely directory and that this requirement has been satisfied if the information which the law says shall be given in the notice is conveyed in printed form, and a copy of the same placed in the possession of each resident of the district. No question can be raised, however, as to the sufficiency of such notice if a resolution is adopted and notice thereof posted in two conspicuous places in the district. It is recommended that this course be pursued.

Certain incompatible features of this law and those of other statutes, and the infraction of constitutional rights of parents under this law, have all been determined by the courts. The vaccination law of this State has been interpreted by our courts in four different cases. In each instance the validity of the law has been upheld. It will also be found that the validity of similar statutes has been determined by the courts of twelve other states, and that, in every instance where a state has enacted a compulsory vaccination law, such law has been upheld by the courts of that state. A case which was determined by the courts of Massachusetts in the interpretation of the vaccination law in that state was appealed to the United States Supreme Court, which held that the Massachusetts law was constitutional. My investigation of the question does not reveal a single instance in which the courts have determined that a statute of this character was within the prohibition of a state constitution.

The question is frequently raised as to whether or not, under the provisions of the Public Health Law as it now stands, revaccination may be enforced after the lapse of a certain period of time or children be barred from attendance at school. There is no provision of the law under which revaccination may be required. Any child who brings a certificate showing that such child was at some time successfully vaccinated satisfies the requirement of the statute, and should be admitted to school. The question is also raised frequently as to whether or not children should be admitted because of certain physical defects which render vaccination unsafe or unwise. The rule which has been

Digitized by Google

followed is that if a child furnishes a certificate from a reputable physician certifying some physical condition which makes it unsafe or unwise to vaccinate such child, the school authorities should accept such certificate and admit the child without vaccination until such time as vaccination may be regarded safe.

Under the provisions of this law, trustees and boards of education may appoint physicians to vaccinate at public expense such children of the district or city as such officers direct. These officers may fix the compensation which is to be paid physicians for such services. The law is sufficiently broad now to include all children attending school. The expense thus incurred is a district or city liability and may be paid from any available funds without authorization by a district meeting. If funds are not available, the authorities of a school district may include the required amount in a tax-list and levy and collect the same as other funds for the support of the school are levied and collected. This action may be taken without authorization therefor by the voters of a district.

When this statute was first enacted by the Legislature in 1860, that body very properly regarded such law as involving a school proposition and, in accordance with sound administrative school policy, placed its enforcement under the officers charged with the management and control of the schools. A law which deals generally with the children in attendance upon the public schools of the State must be regarded as a school proposition, and the responsibility of its enforcement should be placed upon the officers charged with the general management of the schools. In determining, therefore, the duties of school officers in relation to the enforcement of this law, we must also take into consideration the provisions of the Education Law which make it the duty of the school officers to enforce statutes relating to the management and the control of the public schools.

Under the provisions of section 95 of the Education Law the power is conferred upon the Commissioner of Education to remove any school officer who has been guilty of a wilful violation or neglect of duty not only under the Education Law but under any other law relating to the management of the public schools of the State. This section further provides that any school officer may

Digitized by Google

be removed by the Commissioner of Education for wilfully disobeying any decision, order or regulation of the Regents or of the Commissioner of Education, and under this same section power is conferred upon the Commissioner of Education to withhold from any district or city its share of the public money of the State if the officers of such district or city wilfully disobey any provision of law or any decision, order or regulation prescribed by the proper school officers of the State.

We must also take into consideration, in a determination of this question, the general powers which the Education Law has conferred upon the Commissioner of Education. Section 94 of the Education Law specifically declares it to be the duty of the Commissioner of Education to enforce all general and special laws relating in any way to the educational system of the State.

Section 96 of the Education Law not only confers upon the Commissioner of Education the power, but such section makes it his duty, to cause to be instituted such proceedings or processes as may be necessary properly to enforce and give effect not only to any provision of the Education Law but of any other general or special law relating to the school system. A statute requiring all children to be vaccinated to be entitled to attend school is certainly a law relating to the school system.

There is another provision of the Education Law having a bearing upon this matter which should be carefully considered by school officers. Section 855 of the Education Law distinctly provides, when a school district suffers the loss of any part of its public funds because of the wilful violation or neglect of a school officer in the performance of his duty, that the officer thus guilty of such neglect of duty shall be personally liable to the district for the amount of the funds which the district has lost. When the public funds of a school district or city are withheld by the Commissioner of Education because a trustee or board of education wilfully neglects or fails to perform a duty in the enforcement of a statute, any taxpayer of the district or city may institute a proceeding against such guilty trustee or members of the board of education for the purpose of reimbursing the district to the extent of the loss of funds which the district has suffered.

When an issue was raised over the enforcement of this law in

Digitized by Google

1912, the then Commissioner of Education held that there was some force to the suggestion that there was an incompatibility in the compulsory attendance law which required all children to attend school, and the compulsory vaccination law which prohibited the attendance of those children unless they had been vaccinated. He took the position at that time that the question should be referred to the State Legislature for the consideration of that body. The Education Department therefore prepared amendments to the vaccination law and submitted the same to the Legislature. That body failed to incorporate such amendments in this law.

The same question was also raised in a case which went to the courts and the Court of Appeals on June 2, 1914, determined the question in an opinion, in which all the judges of that court concurred, holding that the law was constitutional, that vaccination was compulsory, and that there was not an incompatibility between the provisions of the Vaccination Law and the provisions of the Compulsory Attendance Law. I want to read to you the exact language of a portion of this very recent decision of the Court of Appeals on the Vaccination Law. It is as follows:

> "The statute requiring vaccination was adopted in its present form in 1893. (Public health law [Laws of 1893, chapter 661], sec. 200). The provision requiring attendance upon instruction was first adopted in 1894 (chapter 671). Thus we find that the Legislature adopted the statute providing for compulsory attendance at school the very next year after it had passed the statute requiring vaccination of those attending the public schools, and it does not seem reasonable to assume that it was the legislative intention in passing both of these statutes relating to attendance at school to provide and have it come to pass that unwillingness to comply with the one requiring vaccination might be turned into a good excuse for disobeying the other one concerning attendance. It is hardly to be assumed that when the Legislature passed the later statute there had slipped from its theoretical mind remembrance of the other law providing a very important condition of attendance at public schools and if it had purposed that a child might be excused from attendance by reason of the unwillingness of its parent to have it vaccinated, I can not but believe that something would have been said on that subject.

Digitized by Google

It does not require much spirit of prophecy to foresee what will follow a contrary construction of the statutes. If a parent may escape all obligation under the statute requiring him to send his children to school by simply alleging that he does not believe in vaccination, the policy of the State to give some education to all children, if necessary by compelling measures, will become more or less of a farce under existing legislation.

It is to be borne in mind in this connection that it has been held by the Supreme Court of the United States that a statute compelling vaccination is constitutional (Jacobson *v.* Mass., 197 U. S. 11.)

Therefore, at least under general and ordinary conditions, I do not believe that a parent may escape his duties under the Education Law by pleading simple unwillingness to have his child attend the public schools subject to the condition of vaccination.

So far as the evidence discloses, the defendant's refusal to comply with the requirements of attendance at school was arbitrary and capricious, and as one reads the record and argument of his counsel the impression somehow arises that he was more interested in asserting his right to refuse to comply with the law than he was actuated by the purpose of protecting his child from some possible or supposed injury.

I think there is still another reason why the defendant was not excused for disobedience of the law requiring him to see to the education of his child.

The vaccination statute which we have been considering applies only to the public schools. It is well known that there are schools of other kinds and classes which might have been attended by the defendant's child where attendance would not have been subject to the condition which he now urges as an excuse for his failure to send his child to school. It is answered in his behalf to this suggestion that that would entail expense. This might or might not be so, and even if it were it would not be sufficient to excuse the present position and situation of the defendant. We are made well aware at the present day that the government in the exercise of its police powers does impose many regulations which involve trouble and expense, and such trouble and expense have not been regarded as an excuse for noncompliance. If the defendant does not desire to take advantage of the public schools under the conditions prescribed for their operation, it very possibly may result that he will incur some additional trouble in the education of his children elsewhere.

Digitized by Google

> The choice of courses rests with him and the burdens of either will doubtless be fully compensated by the benefits to accrue from furnishing an education to his children." People *v.* Ekerold (211 N. Y. 387). Advance Sheets July 11, 1914.

In 1912, when this issue was raised, it was also held by the then Commissioner of Education that it was the duty of school officers to enforce the vaccination law when an epidemic of smallpox existed and the health authorities certified to the necessity of the enforcement of such statute. It should be understood that during the winter months of 1914 an epidemic of smallpox occurred in Niagara Falls and several cases of the disease were found in from ten to twelve counties in the western part of the State. The State Commissioner of Health himself assumed general direction of the situation in Niagara Falls. He called upon the State Commissioner of Education for his cooperation in the enforcement of the vaccination law. In response to the duties which the statute conferred upon the Commissioner of Education under such situation, that officer issued a general circular addressed to all superintendents, boards of education and trustees throughout the State explaining to them their duty under the vaccination law and advising them to comply therewith.

In view, therefore, of this very clear and emphatic provision of the public health law which requires vaccination; in view of the various provisions of the Education Law making it the duty of school officers and of the Commissioner of Education to enforce all statutes pertaining to the schools, and in view of the universal decisions of the courts of this country in sustaining vaccination laws, there is but one course for the Education Department to pursue in this matter. It is not a question as to what the personal belief or opinion of the Commissioner of Education, or other members of the Education Department, may be on the question of vaccination. No discretion is allowed the Commissioner of Education in this matter. This law was enacted by the Legislature and that body has declined to repeal or modify it. The statutes make it the duty of school officers to enforce it. It may be said that from 85 to 90 per cent. of the school children of the State have already been vaccinated. It should be further understood that, unless the courts give some other interpretation to this

Digitized by Google

statute than has been given to it, the remaining 10 or 15 per cent. of these children must be vaccinated if admitted to the public schools. If they are not vaccinated they must be denied public school privileges and, in such event, the parents of these children must provide, either by special tutor or through attendance upon private schools, an education for these children equivalent to that provided for them by the public schools.

Only yesterday the board of education of one of the cities of this State appeared before the Commissioner of Education for the purpose of ascertaining instruction from that officer as to its duty in the enforcement of the vaccination law. Four thousand children residing in that city had been vaccinated; 50 children had not been vaccinated. The board of education had given notice after the close of the preceding school year that children would be required to present a certificate of vaccination to be entitled to school privileges when the public schools opened in September. The board of education of that city desired to know if it would be justified in permitting the fifty children who had not been vaccinated to enter the schools when, under the action of the board of education prescribing vaccination as necessary to entitle children to admission to school in September, 4,000 of the children of that city had been vaccinated. The Commissioner of Education addressed a letter to the president of that board of education last night in which he held, first, that it is the duty of the board of education to exclude from the public schools of that city every child who has not been vaccinated as the public health law prescribes; and, second, that it is the further duty of the board of education of that city to proceed against the parents of those children who are excluded from school by reason of not having been vaccinated and whose parents do not provide for such excluded children an education equivalent in every way to the education provided by the public school system of that city.

As a matter of convenience to those who may be interested in the interpretations which the courts have placed upon this question, I append hereto a citation of all the cases which I believe have reached the courts of the several states of the Union.

"A common school education under the constitution of the State of New York is a privilege rather than a right. It is

Digitized by Google

accorded by the Legislature and is subject to legislative enactment, and the State can, in its discretion, debar from attendance at public schools such persons as are unwilling to adopt a protection which, in the estimation of the Legislature, is essential to the preservation of the health of the scholars.

"Section 200 of chapter 661 of the Laws of 1893 is constitutional and the trustees or other officers having the charge, management or control of public schools may refuse to admit, or receive, unvaccinated children, or persons, into the public schools of the State." Matter of Walters (84 Hun 457.)

See also Matter of Smith (146 N. Y. 69.)

"The Court of Appeals take judicial notice of the fact that the common belief of the people of the State of New York is that vaccination is a preventive of smallpox.

The provision of the Public Health Law excluding persons and children not vaccinated from the public schools until vaccinated is a health law enacted in a reasonable and proper exercise of the police powers of the State by the Legislature and violates no right conferred or secured by the constitution.

The fact that the belief is not universal is not controlling. There is scarcely any belief that is accepted by every one. The possibility that the belief may be wrong and that science may yet show it to be wrong is not conclusive, for the Legislature has the right to pass laws which, according to the common belief of the people, are adapted to prevent the spread of contagious disease. In a free country where the government is by the people through their chosen representatives, practical legislation admits of no other standard of action for what the people believe is for the common welfare must be accepted as tending to promote the common welfare whether it does in fact or not. Any other basis would conflict with the spirit of the constitution and would sanction measures based on a republican form of government.

While we do not decide and can not decide that vaccination is a preventive of smallpox, we take judicial notice that this is the common belief of the people of the State and, with this as a foundation, we hold that the statute in question is a health law enacted in the reasonable and proper exercise of the police power. It operates impartially upon all children in the public schools and is designed not only for their protection but for the protection of all the people of the State.

Digitized by Google

The relator's son is excluded from school only until he complies with the law passed to protect the health of all, himself and his family included. No right conferred or secured by the constitution was violated by that law or by the action of the school authorities based thereon." Vismeister v. White (88 App. Div. 44; Affirmed 175 N. Y. 235.)

"Where the mother of a girl ten years old, who was excluded from school because she was not vaccinated, refused to allow her to be vaccinated and continued to send her to the schoolhouse for several days although she was not admitted, there is probable cause to believe the mother guilty of a violation of section 531 of the Education Law, and she can not recover in an action for malicious prosecution against an attendance officer who laid the information alleging that she had not caused the child to attend upon instruction as required by law; that the child had been absent from instruction nine days without legal excuse and that the mother had not presented proof that she was unable to compel the child to attend." Shappee v. Curtis (142 App. Div. 155.)

"The law requiring the vaccination of children in the public schools is a proper one. When a father sends his child to school unvaccinated and the school authorities refuse to allow said unvaccinated child to attend school and the father refuses to permit vaccination and thereafter does not cause said child to attend on instruction as provided in section 624 of the Education Law, he is subject to the penalty provided in section 625 of that act." People v. Ekerold (App. Div.; affirmed 211 N. Y. 386.)

This is a case in which the authority of the State to enact a general vaccination law and the rights of individuals under the constitution are fully discussed. The vaccination law is held to be valid and constitutional. Commonwealth of Massachusetts v. Pear and also v. Jacobson (183 Mass. 242).

This is a case in which the United States Supreme Court held that the law in the State of Massachusetts, requiring general vaccination, is constitutional. In this opinion compulsory vaccination, personal liberty, equal protection under the laws, judicial notice and the constitutional rights of individuals are clearly discussed. Jacobson v. Commonwealth of Massachusetts (197 U. S. 643).

"A city is not liable to one arrested on the ground of having been exposed to smallpox where the officer acted without malice." Levin v. Town of Burlington (129 N. C. 184).

Digitized by Google

"The highest medical authorities, confirmed by long experience of mankind, attest the efficacy of vaccination as a preventive, or an alleviative, of a most dreadful disease, smallpox.

"The general law embraces all, leaving it optional to no one's private judgment whether to render compliance or not. If there are exceptional cases where, owing to the state of the health or system, vaccination would be dangerous, that would be a matter of defense — the burden of which would be on the defendant and the fact to be found by the jury." State v. Hay (126 N. C. 999).

"It is for the Legislature to determine what is for the public good and what are necessary and salutary burdens to impose upon a general class of persons to prevent the spread of disease, and its discretion can not be controlled by the Courts if its action is not clearly evasive and unlawful under pretense of lawful authority. In this opinion the Court discusses the general question of vaccination and the legal points raised in connection with such case." Abeel v. Clark (84 Cal. 226).

"Under its charter power to make rules for the government of public schools in its charge, the Board of President and Directors of the St. Louis public schools has the right to require the vaccination of children in attendance at the schools and to exclude those who refuse compliance." Matter of Rebenack (62 Mo. 8).

"The general assembly may, in the exercise of the police power, confer upon the municipal corporations of this State authority to make and enforce ordinances requiring all persons who may be within the limits of such corporations to submit to vaccination whenever an epidemic of smallpox is existing, or may be reasonably apprehended." Morris v. City of Columbus (102 Ga. 792).

"Under the law making it the duty of local boards of health to protect the public health and arrest the spread of contagious disease, a local board of health may require all school children to be vaccinated as a sanitary condition imposed upon their privilege of attending school, during the period, or threatened epidemic, of smallpox." Blue v. Beach (155 Ind. 121).

"What is for the public good and what are public purposes and what does properly constitute a public burden are questions which the Legislature must decide upon its own judgment and in respect to which it is invested with a large discretion, which can not be controlled by the Courts except

Digitized by Google

perhaps when its action is clearly evasive and where, under pretense of lawful authority, it has assumed to exercise one that is unlawful." Cooley on Constitutional Limitations, page 157.

See also opinion of Attorney-General John Cuneen, New York State, report 1903, page 317.

See also opinion of Attorney-General Thomas Carmody, New York State, August 20, 1914, in letter to Rev. Father J. R. Fitzsimmons.

"That the provisions of the statute were but a reasonable exercise of the police power of the State and that the validity of an action taken by the school committee did not depend upon the actual existence of smallpox in a town, nor upon a reasonable apprehension of an epidemic of that disease." Bissell v. Davison (65 Conn. 183).

"School directors may in the exercise of a sound discretion, exclude from the public schools pupils who have not been vaccinated. Whether a resolution excluding from the schools persons who have not been vaccinated is a reasonable one is to be judged of in the first instance by the school directors. In the present state of medical knowledge and concurring opinion of those having charge of the public health, the Courts will not say that such a resolution is an abuse of official discretion." Duffield v. School District (162 Pa. 476).

It is held in this case that the State Board of Health, under general statutes conferring upon that body the power to prescribe rules for the preservation of the health of the people and for the prevention of the spread of disease, has not the power to prescribe general vaccination of school children and prohibit children not vaccinated from attendance upon the public schools when there is not an epidemic of smallpox in the city or surrounding country. It is further held in this case that the Constitution and the laws of the State confer upon children the right to attend school and that this right can only be interfered with when some public necessity requires it. There is no statute in this State requiring vaccination. It was also held in this case that the functions of the Board of Health were purely administrative and that in the absence of a statute requiring vaccination, or specifically authorizing the Board of Health to prescribe rules to regulate vaccina-

Digitized by Google

tion, the Board of Health was exceeding its powers in prescribing general rules requiring children to be vaccinated and barring them from school if not vaccinated. Adams v. Burdge (95 Wis. 391); Potts v. School Directors (167 Ill. 67); Mathews v. Kalamazoo Board of Education (167 Mich. 530).

On Oct. 17, 1914, Mr. Justice Mills dismissed a proceeding instituted in the Supreme Court against the Board of Education of Nyack to restrain that body from excluding from school children who had not been vaccinated.

In order to bring together all statutes and matter relating to the vaccination of school children, I have appended the following provisions of the Federal Statutes relating to the manufacture and inspection of viruses, etc.:

AN ACT to regulate the sale of viruses, serums, toxins, and analogous products in the District of Columbia, to regulate interstate traffic in said articles, and for other purposes.

[Act of July 1, 1902, ch. 1378, 32 Stat. L. 728.]

[Sec. 1.] [Regulation of sale of and interstate traffic in viruses, serums, etc.] That from and after six months after the promulgation of the regulations authorized by section four of this Act no person shall sell, barter, or exchange or offer for sale, barter, or exchange in the District of Columbia, or send, carry, or bring for sale, barter, or exchange from any State, Territory, or the District of Columbia into any State, Territory, or the District of Columbia, or from any foreign country into the United States, or from the United States into any foreign country, any virus, therapeutic serum, toxin, antitoxin, or analogous product applicable to the prevention and cure of diseases of man, unless (a) such virus, serum, toxin, antitoxin, or product has been propagated and prepared at an establishment holding an unsuspended and unrevoked license, issued by the Secretary of the Treasury as hereinafter authorized, to propagate and prepare such virus, serum, toxin, antitoxin, or product for sale in the District of Columbia, or for sending, bringing, or carrying from place to place aforesaid; nor (b) unless each package of such virus, serum, toxin, antitoxin, or product is plainly marked with the proper name of the article contained therein, the name, address, and license number of the manufacturer, and the date beyond which the contents can not be expected beyond reasonable doubt to yield their specific results: Provided, That the supension or revocation

Digitized by Google

of any license shall not prevent the sale, barter, or exchange of any virus, serum, toxin, antitoxin, or product aforesaid which has been sold and delivered by the licentiate prior to such suspension or revocation, unless the owner or custodian of such virus, serum, toxin, antitoxin or product aforesaid has been notified by the Secretary of the Treasury not to sell, barter, or exchange the same. [32 Stat. L. 728.]

Sec. 2. [False labels, etc.] That no person shall falsely label or mark any package or container of any virus, serum, toxin, antitoxin, or product aforesaid; nor alter any label or mark on any package or container of any virus, serum, toxin, antitoxin, or product aforesaid so as to falsify such label or mark. [32 Stat. L. 729.]

Sec. 3. [Inspection.] That any officer, agent, or employee of the Treasury Department, duly detailed by the Secretary of the Treasury for that purpose, may during all reasonable hours enter and inspect any establishment for the propagation and preparation of any virus, serum, toxin, antitoxin, or product aforesaid for sale, barter, or exchange in the District of Columbia, or to be sent, carried, or brought from any State, Territory, or the District of Columbia into any other State or Territory or the District of Columbia, or from the United States into any foreign country, or from any foreign country into the United States. [32 Stat. L. 729.]

Sec 4. [Board to prescribe regulations for licenses.] That the Surgeon-General of the Army, the Surgeon-General of the Navy, and the supervising Surgeon-General of the Marine-Hospital Service, be, and they are hereby, constituted a board with authority, subject to the approval of the Secretary of the Treasury, to promulgate from time to time such rules as may be necessary in the judgment of said board to govern the issue, suspension, and revocation of licenses for the maintenance of establishments for the propagation and preparation of viruses, serums, toxins, antitoxins, and analogous products, applicable to the prevention and cure of diseases of man, intended for sale in the District of Columbia, or to be sent, carried, or brought for sale from any State, Territory, or the District of Columbia, into any other State, Territory, or the District of Columbia, or from the United States into any foreign country, or from any foreign country into the United States: Provided, That all licenses issued for the maintenance of establishments for the propagation and preparation in any foreign country of any virus, serum, toxin, antitoxin, or product aforesaid, for sale, barter, or exchange in the United States, shall be issued upon condition that the licentiates will permit the inspection of the establishments where said articles are

Digitized by Google

propagated and prepared, in accordance with section three of this Act. [32 Stat. L. 729.]

Sec. 5. [Enforcement of regulations, etc.] That the Secretary of the Treasury be, and he is hereby, authorized and directed to enforce the provisions of this Act and of such rules and regulations as may be made by authority thereof; to issue, suspend, and revoke licenses for the maintenance of establishments aforesaid, and to detail for the discharge of such duties such officers, agents, and employees of the Treasury Department as may in his judgment be necessary. [32 Stat. L. 729.]

Sec. 6. [Interference with officers, etc., prohibited.]. That no person shall interfere with any officer, agent, or employee of the Treasury Department in the performance of any duty imposed upon him by this Act or by regulations made by authority thereof. [32 Stat. L. 729.]

Sec. 7. [Punishment for violation.] That any person who shall violate, or aid or abet in violating, any of the provisions of this Act shall be punished by a fine not exceeding five hundred dollars or by imprisonment not exceeding one year, or by both such fine and imprisonment, in the discretion of the court. [32 Stat. L. 729.]

Sec. 8. [Repealed.] That all Acts or parts of Acts inconsistent with the provisions of this Act be, and the same are hereby, repealed. [32 Stat. L. 729.]

COMMISSIONER BIGGS — We are very fortunate in having with us to-day Miss Julia C. Lathrop, the Chief of the Children's Bureau at Washington, D. C., who will address you on the physical welfare of school children.

Digitized by Google

THE PHYSICAL WELFARE OF SCHOOL CHILDREN

MISS JULIA C. LATHROP

Chief, Children's Bureau, Washington, D. C.

I have come to attend this meeting because from the standpoint of the Children's Bureau it is one of the most important gatherings of professional men which has taken place in recent years. I know that I realize this the more because I have the honor to represent the staff of the Children's Bureau and it is our business to try to interpret the law, which says it shall be the duty of the Bureau to "investigate and report upon all matters pertaining to the welfare of children and child life among all classes of our people." That means, of course, that we are in part to glean in that great field where you have left hygiene behind you in your further work of preventive medicine.

This body represents the interests of the State as a whole in the field of social medicine, and for that reason also your work is particularly important to us because we, like your association, are endeavoring to serve the people as a whole and to make plain the bearing through the states of the work done in great cities for social welfare.

The greatest invention which America has produced in the last three hundred years is unquestionably our system of free public education, open to boys and girls alike, flexible, growing, adaptable. This system has produced schools so good that, speaking in broad terms, private education can not compete with them. Never was there a time when the school showed more promise than at the present moment, and yet never a time when it was on all sides more beset by criticism, and sound criticism at that. We question and criticise it because we know it is our own to develop and maintain, and at bottom we believe, as Abraham Flexner pointed out two years ago, that the American school has the defects of a growing, vital democratic organization steadily fitting itself to popular needs, rather than the perfections of the Continental school methods which have been devoted to securing industrial expertness and maintaining a social status quo. No

Digitized by Google

subject can be more interesting to us than the development of popular education. No aspect of that development is now more profoundly important to the general welfare than that which has to do with the physical welfare of children, and it can not but be a matter of National import that a great state has created by legislative act a new protection for the health of school children throughout its length and breadth.

Yet at its best, with all the development which can be given it, the school can not take the place of the home, it can not take the place of society, it can not even take the place of the street and the highway, and for myself I believe that the school of the future is not to be a school which will take the child away more hours from his family, but rather that it will send him back to his family with a certain power to employ himself within the family more happily and more intelligently than before. The question of whether the family is one which gives a child a normal opportunity for happy and intelligent life is another all important question. The answer to that question is being approached by the bare existence of this body.

The child that comes into the school, his promise, his progress, are conditioned by the life he lives in his home. The power of the school itself to develop the child depends upon the type of children who enter it and the type of children who enter it is conditioned by the homes in which they are born and bred. And by no artificial invention in the world, by no perfection of the school, by no lengthening of the hours of school attendance, by no variety of occupations, by no feeding of school children or amusement in their leisure, can we change the fundamental fact that the child is primarily the creature of his home life.

The child belongs in a home,—he goes to a school, but he returns to the home; and it is in the home, where the root of his being is, that we must look for the great sources of his training, for the great springs of his action. We have put too heavy a burden upon the school and we have not faced our responsibility for the home.

If a child goes to school from a home where an over-burdened mother, perhaps a widow, or deserted, struggles to do the work of bread winner and home maker both, and can give her children

Digitized by Google

neither the physical nor the moral protection which is their right, he is likely to take to school, not the alert eagerness which snatches new ideas with joy, but rather the dulled, unsteady mind which can neither grasp facts nor reason upon them. Such a child is likely to slip into truancy and idleness or overt law-breaking. The records of Dr. Healy's work in the Chicago Juvenile Court, and of a growing number of other court physicians, show how closely physical defect is joined to all the other causes that bring the child before the law.

So plain is the sequence between delinquency and a home where the parents are not able to give adequate care to their children that three juvenile court judges in three different states have urged mothers' pensions because their experience showed that mothers are needed at home to feed and warm and tend their children.

Some of the relations of physical well-being to delinquency and dullness are not easy to show with precision, but the fact that such relation exists has been shown repeatedly. The relation of parental excess to physical and mental defect in children is unquestioned, though much study is needed to measure them properly. The relation of parental deprivation, over-work, unhealthful occupation, to the physical well-being of children is a real one, though here, too, study is needed, not only to measure the injury, but to establish a standard below which the state can not afford to let the parents fall.

We are seeing increasingly how sternly, yet how admirably, all the elements of child welfare hang together. Once learning was a thing apart, a previous goal for its own sake, to be attained without regard to the physical strength of the runner. We do not love learning less because we see that physical strength and vigor must be conserved if our youth are to make the most of education.

Dr. Gulick has said regarding the typical school of the country that "so extensive a readjustment of the life habits of the young of the species has never before been attempted," and while we are just beginning to measure the results of the change from active to sedentary occupation for the growing child, we discover that those educators who view the school from the standpoint of

Digitized by Google

social medicine do not hesitate to point out its injurious effects. We find such statements as that of Terman:

> "The close correlation of morbidity with years of school attendance, with length of daily program, and with the progression of the school term; the deterioration of attention toward the end of the school year; the damaging effects of strenuous school activities upon appetite, digestion, metabolism, and the constitution of the blood; the ill effects of deprivation from fresh air and from healthful physical exercise; the impairment of nervous coordinations and the profound disturbances reflexly produced by worry — these and other injurious effects have been sufficiently attested to justify the most vigorous prosecution of reform in matters of educational hygiene.
>
> "Some of the worst consequences are either deferred, or else are of such intangible character that they are not apparent to common observation. In the former class belongs the sedentary habits instilled by the many years of school life. These remain with most of us as an unclosed debit account, exacting throughout life a progressively usurious toll of health and happiness."

As Terman also points out, if all children were perfectly healthy when received into school, the question would be simpler, but our students of education and of youthful development confront us with phalanxes of figures which put to rout our confidence in the protection to health given by the average home.

One of the best things about a great city — after the fact that so many of us can still escape living in it — is that its very evils have stimulated the most generous effort, the most intelligent and scientific application of methods for protecting health against the artificiality of city life. Especially have humanitarians and physicians felt this challenge when they have looked at the three-quarters of a million children in the New York City schools. Nowhere has the response been more generous and the result more brilliant. It is now the task of to-day to apply throughout the State the practical methods which have been worked out by the exigencies of the city. For the State of New York has made, by a searching self-examination, as stated in the Health Commission Report of February 1913, so clear a showing as to the relative movement of city and country health that the whole

Digitized by Google

plan of campaign is marked out, the necessity for action to preserve the health of children outside the great cities plainly developed, and nothing remains except to go on with a work which is to be stimulated and pushed forward by public opinion, and of which a meeting like this is obviously one of the auspicious beginnings.

New York City has given the example,— a statement lately issued by the Department of Health of that city compares the five-year periods immediately before and immediately after the establishment of the municipal Bureau of Child Hygiene. It shows, comparing the two periods, that there has been an actual decrease in the infant mortality (deaths under one year) and a corresponding decrease in the death rate under five years. This group of figures is especially significant as showing that work done for infancy has a direct bearing on the health of older children. Such work for infant welfare must result in greater vigor at school age.

It is plain that our standards of health are steadily rising, as science pushes out fatalism. If we are impeaching the school and the home and insisting upon better hygiene for both, and are increasingly emphasizing the physical perils of adolescence, we must not allow any portion of the child population to escape our watchfulness, and hence the medical inspection of school children can not be less than the medical protection of all children, whether they are at school or at work. The growing youth who leaves the protection of the modern school to go into any sort of industrial occupation will not find the same safeguards. Yet it is not for the interest of the state that the watchful protection should cease during the formative years of life. If children are obliged to substitute productive work for education, all the more they need the conservation of their physical forces. Does this mean less than that the school, the home, and places of employment, must be alike supported in every effort to furnish children with healthful surroundings?

If I were to try to indicate the single factor which seems to me most important in developing and maintaining a vigorous physique among school children, I think it would be the cultivation of a taste for out-of-door life. I remember a poor-law

Digitized by Google

guardian in London who told me of the deep distress of a city girl who had spent many years bedridden in a workhouse, and for whom she finally secured a long holiday in the country, only to receive soon a plaintive request to come back where there were shops; that there was nothing but grass and trees. To have our children know with lively interest what grass and trees and streams and growing things really are, and in how many ways they requite human painstaking, is to have the beginning of a pressing, universal demand for wide opportunity for orderly out-of-door life, a life whose relation to the physical betterment of the next generation of school children will be of immeasurable value.

The other day I saw a government clerk come in from his holiday, a big vigorous fellow whom all the year I had seen with pale, sagging cheeks. He was brown, hard, gay with the pleasure he had had with his little son in the country. What sort of stupidity is it which, first in our schools, and then in our work, demands such conditions of labor that the result is inevitably pallor and physical deterioration?

A city school last year — in a somewhat milder latitude than this — took a small class of rather delicate children and occupied them for all but one hour of the school day with out-of-door work and play. In that one hour they were in the school room with the undivided attention of their teacher. At the end of the year they had done five times the amount of school work which the children had done who spent the entire year in the school room. They had grown strong and vigorous. But, I was told, "We are afraid to talk about it because it would destroy the system!"

Montaigne, in his essay on Custom, says "It is to be noted that children's plays are not sports and should be deemed their most serious occupations."

This country has set an example for the whole world in its recent recognition of a child's right to play and therefore of his right to a playground, and we are rapidly coming to see that if play is a child's serious occupation, it must be so treated by elders as to be made to serve, in the richest sense, the ends of education. In this aspect, the medical profession has much to

Digitized by Google

study and much wisdom to bestow, and in this great state-wide movement for the health of school children we may count upon the health officer to take with all seriousness the study of how to make play most joyous and most fruitful. Here too the school is helping by making the school itself a center of social life, and therefore a center for joining the interests of home and school.

As a matter of fact, no modern movement connected with education can claim better sanction from tradition than that to make the school a center for social intercourse. The little log school house of our grandfathers was a place where the singing school and spelling bee and school exhibition furnished a large part of the social pleasure of a pioneer community. Many of you must be acquainted with the pioneer history of this state. For my own part, I was bred with tales of the social life of the farmers who turned the forests of the Holland Purchase into wheat farms, and I well remember the part which the school house played in the tales of that life. We are but regaining in a richer form what we have lost, when we demand that our great city schools and our country schools as well should offer their hospitality for the gatherings of the communities whose children learn their lessons in them daily.

This movement to use the school as a social center is of course of incalculable influence in a health campaign. It gives a new method by which the school and the home can react upon and benefit each other. Linked together through social intercourse we may hope for a steadily bettering standard of sanitation in the household and a steady humanizing of the school. Already the use of the school inspection service and the school center for health service for infants and children under school age is beginning. Especially in rural communities this promises much.

We are just emerging from an epoch when the straight rows of slanting desks screwed to the floor seemed an impregnable fortress against any social use of that floor space. Parker, Dewey, Montessori restore the school room to society, with constantly changing, orderly rearrangement of apparatus and furniture, all made with reference to the social needs and physical development of children and all accomplished by the children themselves. They point the way toward the prime recognition

Digitized by Google

of the demands of the child's whole nature, the flowering of mental and moral growth from the stalk of physical vigor, all conserved by providing a distinctly social, orderly yet varying, medium for physical, muscular and sense exercising and training.

The modern attention to school hygiene developed in New York as nowhere else, now to be spread to every remote district of the State, is of untold social import. It is a great educational promise for the home, a sure factor, rightly understood, for making the school serve the home and therefore society more effectively than ever before. It will spread to every state, and carry to the country a gift of knowledge of modern hygiene in the care of infancy and youth alike, which will restore to the country that superiority over the city in healthful children to which it is rightfully entitled. This is not the last, but the next, achievement of the incomparable American public school system.

COMMISSIONER BIGGS — Dr. Leonard P. Ayres, Director of Division of Statistics and Education, Russell Sage Foundation, will give the last address this morning.

Digitized by Google

THE NEW ATTITUDE OF THE SCHOOL TOWARD THE HEALTH OF THE CHILD

LEONARD P. AYRES, Ph. D.
Director, Division of Education, Russell Sage Foundation

Fourteen years ago the school superintendents of America, assembled in convention in Chicago, discussed the problems then foremost in educational thought and action. Diligent search through the printed report of that meeting discloses no single mention of child health, no word about school hygiene, no address devoted to the conservation or development of the physical vigor of youth.

At that time eight cities in America had systems of medical inspection in their public schools. To-day the number of such systems is nearly 700. This development is without parallel in the history of education. No one there present ever heard of a school nurse, for no city in the world employed one; but to-day over 100 American cities have corps of school nurses as permanent parts of their educational forces. Had anyone in that Chicago meeting dared prophesy that we should soon employ dentists to care for the teeth of our school children, his words would have been greeted with derision; but to-day nearly 100 cities employ staffs of school dentists.

A dozen years ago those who discussed the problems of educating the mentally deficient, the blind, the crippled, and the deaf, thought and talked only from the standpoint of treatment in special institutions. But to-day New York City alone has in her public schools 150 classes for mentally deficient children with ever-increasing provision for the other classes of unfortunates, and the work there is merely a sample of what is going on in the cities throughout our land.

These changes represent no passing fad or temporary whim. They are permanent, significant, and fundamental. They mean that a transformation has taken place in what we think as well as in what we do in education. They mean that the American common school has ceased to be merely a place where for a few brief years our children shall acquire useful information. Instead,

Digitized by Google

it has entered upon a new role, in which it is destined to reach, and to reach profoundly, the whole of every child. These changes mean that in ever-increasing measure our schools are to reach the exceptional child as well as the normal, and are to make provision for his physical well-being as well as for his intellectual development.

This profound change in our educational practice did not come through the slow processes of philosophy, nor because we were awakened by the stirring words of voice or pen of any educational prophet. No schoolman can claim great credit for having hastened its advent. It was forced upon us, first by the natural results of compulsory education, and still more definitely and directly by three of the strangest allies that ever contributed to the work of social reform.

The first reformer — the child with contagious disease

The first of these three reformers was the child with contagious disease. When Boston began medical inspection in America in 1895, by dividing her schools into fifty districts and placing a doctor in charge of each district, she did so in the hope that the new measure would curb the waves of contagious disease that repeatedly swept through the ranks of the children, leaving behind a record of suffering and death. The experiment was successful, and when the other cities learned how Boston was solving the problem, they too began to employ school physicians and organize systems of medical inspection.

During the first years, the spread of the movement was slow, only one or two cities taking it up each year. Then these pioneers were followed by dozens of their sister cities, then by scores, and in the past few years by hundreds.

This sudden recognition of the imperative necessity for safeguarding the physical welfare of our children grew out of the discovery that compulsory education under modern city conditions meant compulsory disease.

The State, to provide for its own protection, has decreed that all children must attend school, and has put in motion the all-powerful but indiscriminating agency of compulsory education, which gathers in the rich and the poor, the bright and the dull, the healthy and the sick.

Digitized by Google

The object was to insure that these children should have sound minds. One of the unforeseen results was to insure that they should have unsound bodies. Medical inspection was the device created to remedy this condition. Its object was prevention and cure. But it was destined to have far greater influence than its early sponsors dreamed.

As school men watched the doctors discover and send home children suffering from contagious disease, they asked whence those diseases came. They examined their records of absences, and they discovered that in nearly every city the number of cases of contagion among children leaps up each year when the cold weather approaches, and the children return to school to sit in close contact with their fellows, to drink with them from the same cup, and breathe dust-laden and artificially dried air. And when spring returns and the windows are again opened and schools are closed for the summer, those who are left go forth to be comparatively free from disease until the return of the next school year.

School men pondered these facts well, and now in city after city schoolhouses are being constructed in which the paramount object is to have the rooms so clean, the drinking water so pure, the air so fresh, and the sunlight so plentiful that compulsory education shall no longer spell compulsory disease, but rather, compulsory health.

The sanitary drinking fountain and the individual cup are fast driving out the common and dangerous tin dipper. Sixty-nine cities already clean their schools with vacuum cleaners, and the days of the broom and the feather duster are numbered. We are nearing the day when our schools will be as clean as hospitals and for the same reasons.

Nor is it only within the four walls of the school building that provision is steadily being made for conserving health and developing vitality. The only educational movement that ever approached medical inspection in the rapidity of its development is the playground. Almost unknown ten years ago, it is now becoming as much a part of the modern school as the roof or the walls.

The movement for public school athletic leagues is spreading from city to city, and carrying with it the knowledge of how to

Digitized by Google

give every boy and girl the physical advantages through exercise that were formerly reserved for those already so well-endowed that they did not need them.

The child with contagious disease has done well and thoroughly his work of educational reform. The health movement in our public schools has been transformed during the past decade from a merely negative movement, having as an object the avoidance of disease, to a splendidly positive movement, having as its aim the development of vitality.

The second reformer — the backward child

The second of the strange allies that came to help us reshape our educational doctrines and practice was the mentally deficient child. We discovered that the dragnet of compulsory education was bringing into our schools hundreds of children who were unable to keep step with their companions, and because this interfered with the orderly administration of our school systems, we began to ask why these children were backward.

The school doctors helped us find the answer when they told us that hundreds of these children were backward purely and simply because of removable physical defects. And then we took the next great forward step, for we came to realize that children are not dullards through the will of an inscrutable Providence, but rather through the law of cause and effect.

This led to an extension of the scope of medical inspection to include the physical examination of school children with the aim of discovering whether or not they were suffering from such defects as would handicap their educational progress and prevent them from receiving the full benefit of the free education furnished by the State.

This work was in its infancy five years ago, but to-day more than 200 cities have systems of physical examination of their school children.

Nor was this the only contribution of the backward child. Along with the knowledge of the importance of physical defects came the realization that compulsory education lays a deep obligation on the State as well as on the parent. If it is to insist that every child shall attend school, it must provide schools fitted to

Digitized by Google

the needs of every child. It is in response to this realization that throughout the land public schools are opening their doors and fitting their work to the peculiar needs of the blind, the deaf, the crippled, and the mentally defective. It is in response to this realization, too, that we are at last beginning to make special provision for that still more exceptional and vastly more important group made up of the children of special talent and even genius.

Just as the work begun with the object of excluding disease from the classroom has developed until it is now redounding to the benefit of all school children, so the special provisions devised for dealing with the backward child have developed and expanded until they now bid fair to benefit the children who are not backward.

Teachers, principals, and superintendents have watched the splendid work of the special classes in giving education to children who were formerly doomed to lives of uselessness to themselves and deep menace to the community. And as they have seen the seeming miracles these classes perform, they are asking why the same measures of small classes, skilled teachers, play, manual work, and abridged courses of study should not give even greater results among normal children.

The third reformer — the tuberculous child

The last of the three allies in the work of educational reform was no other than the great white plague — tuberculosis. In 1907, the city of Providence started an open air school for tuberculous children. During the following year two other cities followed her example. The third year five cities had open air schools. To-day the new work is being done in more than sixty cities.

In city after city across the country open air schools have demonstrated their ability to take pale, wasted and sickly children and convert them into strong, vigorous, and healthy children. And, moreover, they have proven their ability to teach these ailing children faster and better than the regular schools in the same cities can teach the strong and normal children.

And school men, reading the lesson so clearly taught, are asking why all children should not be allowed to breathe pure air. In

Digitized by Google

answer to their question school architects and heating and ventilating engineers are discarding their traditional ideas of ventilation, and are even now constructing school buildings with the avowed object of bringing to every boy and girl the advantage heretofore reserved for the tuberculous.

Keeping for the strong the benefits developed for the weak

These three reformers — the child with contagious disease, the backward child, and the tuberculous child — have done their work well, and that work is not the mere provision for the needs of sick and exceptional children; it is the fundamental reshaping of our educational aim.

For nineteen centuries the educational world has held, as the most perfect expression of its philosophy, that half line of Juvenal in which he pleads for the sound mind in the sound body. It has remained for the first decade of the twentieth century to awake to a startled realization that Juvenal was wrong — wrong because he bade us think that mind and body are separate, and separately to be provided for.

Only now have we come to realize the error and to take steps to rectify it. Only in the last few years have we begun to see that, educationally at least, mind and body are inseparable, and that the sound mind and the sound body are inextricably related — both causes and both effects.

All these things mean that it is our splendid privilege to see and to be a part of a movement which is profoundly transforming our traditional ideas of education. They mean that our children and our children's children will be a better race of men and women than are we or were our fathers.

Public school true instrument of eugenics

In recent years there has appeared a new science, calling itself eugenics, that seeks to discover the secrets of heredity and environment, and to develop methods that shall insure for future generations greater strength, more vitality, and enhanced intellect. The aims of that new science are high and noble beyond those of almost any other form of human activity, but in their methods its advocates are wrong.

Digitized by Google

They are wrong when they seek to apply to the breeding of men the lore of the stock-breeder, because they overlook the deepest and most fundamental factors in man's nature.

What they are aiming at is the steady improvement of the human race, and that is coming. But it is coming through the public school of the future; the school in which the physical, the mental, and the moral will be developed together and not separately; the school in which the child will not only live in healthy surroundings, but in which he will learn habits of health which will be life-long.

The human race will be a better race because of the lessons that have been taught us by the child having contagious disease, the backward child, and the tuberculous child. Because of these lessons, the youth of the future will attend a school in which health instead of disease will be contagious, in which the playground will be as important as the book, and where pure water, pure air, and abundant sunshine will be rights, and not privileges. He will attend a school in which he will not have to be either truant or tuberculous or delinquent or defective to get the best and fullest measure of education.

COMMISSIONER BIGGS — This Conference will reconvene again at quarter past two.

S. Josephine Baker, M. D., Director, Bureau of Child Hygiene, New York City Department of Health, who was to read the Third Paper on "The Physical Examination of School Children," sent a telegram as follows:

"Deeply regret that pressure of business prevents my being at meeting Tuesday."

Digitized by Google

Second Session — Tuesday, September 15, 1914

The Conference was called to order at 2:15 P. M., Commissioner Biggs presiding.

COMMISSIONER BIGGS — I take pleasure in presenting the first speaker of the afternoon, Dr. A. C. Abbott, who will speak on the "Qualifications and Training of the Public Health Official."

THE QUALIFICATIONS AND TRAINING OF THE PUBLIC HEALTH OFFICIAL

A. C. ABBOTT, M.D.

Professor of Hygiene, University of Pennsylvania

I am greatly honored by your invitation to participate in this symposium.

It is indeed gratifying to find so important a body of influential citizens awakened to the necessity of special training for those officially responsible for the conservation of the public health.

I anticipate a fruitful outcome for this meeting.

About fifteen years ago the late Dr. Chas. Harrington of Boston, in a paper presented to the American Public Health Association, made a forceful plea for the organization of systematic instruction in Public Hygiene. He noted how far behind our transatlantic cousins are we in the United States in this important matter. As a result of that communication a committee was appointed and at the Indianapolis meeting a few years later I had the honor, as a member of the committee, to present a tentative scheme for the organization of such teaching.

The plan that was then proposed was a composite, based largely upon the curricula of those English and Scotch Universities that were offering such courses.

With slight modification a beginning was made at the University of Pennsylvania and in 1906 a definite course, leading to the certificate — Certified Sanitarian (C. S.)* was formally announced in the University Catalogue. For three years this course was announced without a single applicant.

* It was not realized until seen in print that the "C.S." might be mistaken for "Christian Scientist."

Digitized by Google

In the meantime, manifold social, industrial, and philanthropic activities as well as those along purely health lines were instituted by competent leaders and almost before we knew it the problem of Public Hygiene had assumed, if not an entirely new aspect, certainly a very much expanded one. It behooved us, therefore, to make appropriate changes in our plan of education. It was found desirable to so adjust the plan as to give to the student as comprehensive a grasp of the ramifications of the problem as was possible in a reasonable time; to subordinate to some extent, certain special work on which emphasis had been laid; to require a Doctor's Degree of all applicants for the course; to make the award "Doctor of Public Hygiene," instead of "Certified Sanitarian," and to arrange means for protracted work for anyone desiring to pursue special studies in any of the particular fields covered by the general course of instruction. With such modifications from time to time as are demanded by this rapidly growing subject, the foregoing is what I believe to be the best course to pursue at the present time. I feel that our efforts, any efforts in fact made now in this country, are to some extent experimental and it is with this in mind that I look for valuable suggestions as a result of this symposium.

To be specific, I feel that first and foremost the health officer should know the problem in all its ramifications. Not that he should be master of each of the special fields of activity but that he should know enough of them to realize his own shortcomings and appreciate the time when competent expert aid is demanded. That he should be master of at least one of the practical phases of the subject goes without saying.

To illustrate my meaning: Think of the health official unconscious of the appalling mortality among infants, its underlying causes, the activities projected toward checking it, and its relation to social and educational conditions. Could we look to such for sympathetic cooperation in efforts to check this needless waste? How effective would be the administration of an official ignorant of what studies in the fields of bacteriology, biology and zoology have done to place the control of disease and the institution of sanitary engineering upon sound logical bases. Could such comprehend for a moment the obvious channels through which transmissible diseases are spread; the likelihood of contacts and of

Digitized by Google

convalescent carriers being patent sources of outbreaks. Could he have the least conception of the philosophic basis on which rests the use of antitoxic sera and bacterial vaccines, to which we look for so much aid in combating disease.

Could he understand the reason for vast expenditures in money by the sanitary engineers in their efforts to supply wholesome water; to effectively dispose of human waste; to destroy the breeding places of insect pests and in general to surround us with better conditions of life?

Could an official ignorant of the fact that certain diseases of domestic animals are transmitted to man, especially those diseases peculiar to animals on which we rely for food, do effective work in protecting his community from the ill effects of diseased meats and unwholesome milk?

What would become of the health officer to-day who might have the temerity to question the value of medical inspection of school children as a most important safeguard against outbreaks of dangerous disease; as a means of discovering children whose mentality is such as to demand teaching quite different from that suited to the normal child; in detecting children with physical defects easily amenable to sensible treatment? Indeed, in some of our foremost health organizations provisions are actually in operation for the correction on the spot of such defects as involve the eyes, ears and teeth. The modern health officer must be abreast of these movements. He need not fear the cry of paternalism, once raised. That has been effectively silenced by the results.

With the newer socialistic activities new questions for the health official have arisen, notably those having to do with the housing of the poor; the matter of child labor and a most important problem, that of the diseases of occupation. You may say that these are not among the functions of a health officer. Whether they are or not, sooner or later he is sure to be consulted upon these matters and his cooperation invited in efforts to check abuses.

It has been said that the primary function of a Health Department is to check disease and not waste its energies in educating; leave that to the educators. In both statements I am in agreement but in checking disease we must not lose sight of the environment under which disease develops. We cannot view the single diseased person quite as an independent entity; many collateral cir-

Digitized by Google

cumstances must be considered and it is this that demands the broad comprehensive consideration of the health official. As to education by the educators, the latter must first be specifically educated. This can be done only by teachers fully acquainted with the many sides of this matter. Why give out the facts second hand? Education of the public by the Health Officer and his co-workers, the effective educators, is one of the most important functions, as is fully recognized by the body under whose auspices this meeting is held.

A few years ago during an unusual outbreak of pneumonia in the city in which I live it was desirable for the authorities to know not only the exact number of cases, but their precise location, social conditions, occupation, etc. A plea was made for the reporting of all such cases with full data. A few days after the invitation went forth I was accosted on the street by a prominent physician who asked: "Why do you want pneumonia reported: is it only for statistics?" It was my opportunity to educate but I was so astonished that I replied, "Yes, only for statistics," and passed on my way. If such an attitude is possible by a well-educated physician what may we expect from the poorly educated physician and layman. Correct statistics are the health officers' measuring stick. Without such data it is impossible for him or anyone else to determine the value of his efforts in improving health and checking deaths. This is so obvious that I am loath to discuss it before such an assembly, yet some of you have already had, and others will have, experience in the extreme difficulties in securing reliable, working statistical data.

Another important question that arises in discussing the educational equipment of a health officer is that having to do with his former education. Is it to his advantage, and that of the public, for him to have had a training in medicine? Notwithstanding examples of notably successful public health administration by layman I am nevertheless of the opinion that for many reasons a foundation work in medicine is desirable for the successful health officer. In the first place his most important cooperation should come from the physicians of his district. Unless he be of their order that sympathy is lacking that makes for effective work. It is desirable that he not practice his profession. He should be paid sufficient to justify him in giving to his official duties his entire

Digitized by Google

time and thus enable him to escape embarrassing professional entanglements. The most frequent and probably the most important questions that will be referred to him are those having to do with contagious diseases. A fairly full knowledge of the subject is an absolute essential to the educational equipment of the presiding officer. Without such knowledge there will be a lack of confidence and in consequence his rulings may be questioned and ineffective.

Indeed, I take this occasion to depart for a moment from the text set for me to express the regret that physicians, in general, have so far alienated themselves from the newer movements in what may be called social medicine, that the places properly belonging to them are being rapidly usurped by far-seeing laymen. I feel no doubt that the medicine of the future is prevention; that it will be more closely identified with the governmental activities and that the days of the old-fashioned doctor working alone as an independent factor in his county are rapidly passing.

In support of my argument for broad fundamental education I invite your attention to the program of this meeting. To me it is a most impressive document. I cannot but imagine myself twenty-five years back and visualize an advance to whom was presented a like program of activities with which the health officer was supposed to be in intelligent touch. Note the organization of divisions of work, each presided over by men of signal ability in their special fields. Note the character of men who hold themselves in readiness to give their best in the councils for the public weal. If I had not been afraid that my action might be misunderstood I could have performed my part in this symposium in a few minutes by simply dwelling upon the subjects covered in the program as foundation stones with which all health officers should be familiar.

Among those who seek instruction in public hygiene are a number who do not aspire to the executive offices but prefer rather to specialize in one or another of the technical fields comprehended by the work. While this is a perfectly laudable ambition and one to be encouraged it is nevertheless not without its difficulties. I feel that all institutions offering full courses should also provide for such special workers but the difficulty most frequently encountered among applicants for such work is the lack of such

Digitized by Google

fundamental training as will enable them to pursue their studies with profit to themselves and credit to their instructors.

In all of our city health departments as well as in the departments of engineering are individuals who desire a wider acquaintance with the scientific aspects of the work for which they are employed. Many of such are rendering excellent routine service but when they undertake the advanced work they encounter their troubles. In the matter of the biological and mathematical sides of sanitary engineering, in entomology and zoology as they relate to insects and rodents as nuisances and as disease carriers, in the matter of bacteriology, physics and chemistry as they apply to practical sanitation, these defects are most frequently in evidence. It would seem that causes adapted to the needs of such applicants might be organized with advantage and thus we could strengthen the organization all along the line — not only by formal causes adapted to the needs of the leaders, but to those of the followers as well.

In the course of instruction with which I am identified "the problem" is the objective point, and every effort is made to offer such opportunities for work in its various components as will give to the student some first-hand acquaintance.

In this work full use can be made and is made of the city health department. Here is seen in every day application that which the student has had in a more or less abstract way in the regular University course. To use a medical term the city health department is our clinic.

Of no less importance than his technical education are the personal qualifications of the health officer. Tact, the understanding of men, the ability to stimulate them to their best effort and the understanding to use their results in the most effective manner are qualities that often cover a multitude of technical deficiencies. I am not certain that these God-given attributes can be acquired in their fullest measure, but surely under suitable environment they may be gained to some extent. For this reason I know of no better schooling than for the technically educated candidate to serve an apprenticeship in a health organization of recognized merit.

Digitized by Google

In this sketchy outline I have endeavored to show that because of the complexity of the modern problem of public hygiene it behooves the aspirant to leadership in this movement to acquaint himself with the various aspects of this many sided subject. I do not mean that he should master each and every field, or that he should contemplate doing personally all the things that fall to a health department, but he should certainly be conspicuously identified with some one or another feature of the work and should possess a sympathetic interest in all.

PROFESSOR WINSLOW — The modern public health problem is a complex one, involving the cooperation of workers trained along many different lines. While they have been organizing the school for medical officers of health at Pennsylvania, there has grown up during the last twenty years a course at the Massachusetts Institute of Technology in Boston under the direction of Sedgwick, for the training of engineers and bacteriologists and biologists, specializing in the nonmedical aspect of public health. However true it may be, and I think no one will deny it that the ideal qualification for the executive is a medical training plus specific training in public health, yet if we must choose one or the other it is better to have a nonmedical man trained in public health than a medical man who is not trained in public health. With the existing dearth of such men, these graduates from the Massachusetts Institute of Technology have often been able to undertake and successfully carry out the health administration of many communities.

Meanwhile at Harvard another School of Public Health was built up, and a situation existed three years ago in which two schools were doing in some respects conflicting and in other cases supplementary work in one city. It was an obvious thing to do — to bring these two together, to weld them together into one great school of Public Health. But those things that look easy are often very hard to work out in detail. Fortunately there was one man on the ground who had the sanitary statesmanship to see this, and to bring it about. That great joint school maintained by Harvard University and the Massachusetts Institute of Technology owes its being more than to any other man to our next speaker, Professor Whipple.

Digitized by Google

PUBLIC HEALTH EDUCATION, WITH SPECIAL REFERENCE TO THE SCHOOL FOR HEALTH OFFICERS OF HARVARD UNIVERSITY AND THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

GEORGE C. WHIPPLE, C. E.

Professor, Sanitary Engineering, Harvard University and Massachusetts Institute of Technology

Some six or eight years ago I had the pleasure of speaking before a Conference of Health Officers of New York State. Then you were a very small band, and now you are a great host. But it seems to me that this increase in numbers reflects not only an increased interest in sanitation but the greater efficiency of the Health Department of this State, and I rejoice in your success. I am very glad indeed to be able to be here this afternoon.

From time immemorial the world has recognized three great professions — the ministry, law, medicine. They stand respectively for love, order and health — the great Trinity upon which human happiness is founded. During the nineteenth century another profession arose, different from the other three in that it concerns itself with things external, but nevertheless of vast importance to the well-being of the race — the profession of engineering. With many parts, heterogenous, amorphous, the world has not always recognized it as a united whole; but gradually it has become crystallized around the central idea that "engineering is the application of the great forces of nature for the use and convenience of man." Thus our professional triangle has become four square and our modern civilization may be said to rest upon the four learned professions — the ministry, law, medicine, engineering.

Between these corner posts of education the framing of our social structure is intricate and complex. Beams stretch from one post to the other, and there are braces and cross-braces; combinations of science, subprofessions and vocations. As civilization becomes more complex the net work thickens until we can scarcely recognize the boundaries of our callings and even our avocations become mixed with our vocations.

Digitized by Google

Every once in a while some particular need of the race comes prominently to the front and as the need becomes filled and men educate themselves for it, we say a new profession has come — meaning a new species, not a genus.

At the present time the great need of the world is *peace*. The new science of engineering has built one of its structures too high and it has toppled over. Over-developed armaments have thrown the nations into a sea of blood, from which only the other three professions can rescue them, those which stand for love, order and health. But it is not civil engineering which has wrecked Europe, it is military engineering — the application of the great powers of nature, not for the use and conveniences of man, but for the destruction of man. This is not what is meant when we speak of the new fourth great profession.

Although engineering has failed to blot out war, it has done much to blot out the other great scourges of the race — famine and pestilence. The development of transportation on land and sea has brought the wheat fields of the smiling prairie to the parched desert, and has widened the market gardens of the city. Agricultural engineering has multiplied the fruits of the soil. The development of cold storage has widened our markets in time as well as distance. Future famines from natural causes will occur only when engineering fails to do its work.

In combating pestilence the profession of engineering has combined with that of medicine. When disease comes from without it requires the aid of a profession which deals with things external, and as disease always acts within it requires the aid of a profession which deals with things internal. It is idle to discuss whether the doctor or the engineer plays the greater part in preventing disease. Where so much has been accomplished by both, where the work to be done is so great, there are tasks enough and regards enough for both professions. In fact we must include the professions of ministry and law because social service and legal force are potent weapons in the campaign for health. Let us recognize as our first principle that the leaders in this campaign, the health officers of the country, must base their work upon all four of the great professions, upon medicine, engineering, law and social service. It is for this ideal that the new

Digitized by Google

School for Health Officers of Harvard University and the Massachussetts Institute of Technology stand and it is about this ideal that I wish to speak to you to-day.

The movement for fostering health and preventing premature death from accident and disease is world-wide in its range, and has attained a magnificent popular momentum, thanks to thousands of earnest men and women who have approached the subject from many different angles. It is a mighty stream and like a mighty stream has power for good and power for harm. It needs to be controlled. The movement needs to be organized through regularly constituted governmental agencies. The mechanism for this already exists in crude and diversified forms. We have departments of health in most states and cities, local boards of health in small communities, occasional county or district organizations, voluntary associations, philanthropic agencies, and last but not least our ambitious and constantly improving national Public Health Service. Without in any way belittling what is being done, on the contrary with a just pride in what has been accomplished, we must all admit that, take it the country through, the Public Health Service is ineffectively organized and insufficiently supported. The need of the hour is for official leadership and for the public recognition of this need for official leadership.

We are all familiar with the term "captains of industry." We know that the men so-called are leaders in the industrial world. But we also know that industrial organization would go to smash were it not for the sergeants of industry and for the corporals of industry, for those who come into actual contact with the rank and file of business men. Similarly we have our "captains of health." Their great names are known to us all. We recognize their ability. When they speak the world listens and takes heed. But as an organization we lack the sergeants of health and the corporals of health; we lack the local leaders.

Our present local heath officers have risen from the ranks, generally from the medical profession. All honor to those who have served so faithfully and so well. Those who have succeeded and have become not only sergeants, but captains of health, have done so only by long service, individual study and personal

Digitized by Google

sacrifice. Individuals here and there have succeeded, yet the method is wrong.

Our present service is unequalled in efficiency. The large city, with a large problem, can afford to pay a large salary to a large man. The small town, with a small problem has likewise been obliged to pay a small salary to a small man, or to put it less harshly, to pay a small salary to some man, who, because of the small salary, cannot give all of his time or thought to the public health service. We also have local boards of health where no one is paid, and where the service is consequently irresponsible. A great fault is that the ultimate unit has been too small. The problem of caring for a people's health is so complicated that the man who attempts it should not try to do anything else. He cannot do so in justice to himself and to his work.

In order that he may give his whole time to his job he must be paid a living wage. And in order that he may be paid a living wage he must serve a district large enough to afford such payment. Hence the ultimate unit must be made larger than it has been in the past. Improvements in transportation and the communication of thought make this possible today to a much greater extent than formerly. The town, or the borough, or the village, or the small city will not ordinarily prove adequate, and one of the signs of the times is the establishment of public health districts presided over by a district health officer. The State of New York has adopted this system and Massachusetts is following her example.

We also have in Massachusetts examples of voluntary combinations of neighboring towns to secure the services of a health officer who gives his full time to the towns included in the arrangement. The towns have the advantage of the services of a specialist and the man receives joint compensation commensurate with his services.

The first step in perfecting our public health organization, therefore, is to provide for full time health officers, serving districts large enough to afford an adequate salary for a well-trained man.

The second step is that of securing stability of service, by establishing long terms for health officers. To train one's self

Digitized by Google

for this work costs time and money. It requires capital in the shape of education and experience. No man can afford to enter upon this career unless his livelihood is assured. Furthermore, a health officer's success does not depend wholly upon his knowledge of sanitary principles; it depends equally upon his knowledge of the community. He must know his territory geographically and physically, and he must know his people and their habits of life. This knowledge can be acquired only by familiarity.

The third step is coordination. Lines of authority should be established from the health officials of the smallest communities through the districts to the State Departments of Health, which in some states are already well organized. Cooperation between the states under the general direction of the federal government will also be necessary.

But let us come now to the man himself. What shall the health officer be, a doctor, an engineer, a lawyer, a minister? Yes, any one of these, provided he knows enough about the other three professions and has the proper personality. Instances may be cited where lawyers and where ministers have become public health officers, and in recent years many engineers have proved conspicuously successful in this field. It must be admitted, however, that in the majority of cases men have entered this service through the profession of medicine. This was natural and proper, as long as disease was regarded as something wholly personal, and it probably will remain true that for many years to come the best portal of entry to the public health service will be that of the profession of medicine. By this is meant that the man already learned in medicine will have less to learn of the other sciences, than he who is already trained in some other profession will have to learn of matters that are biological and medical. Again the world has for so long regarded the medical practitioner as the custodian of the public health that the title of "doctor" carries with it a certain prestige which is of advantage from an administrative point of view.

We have seen, however, that the profession of public health has greatly broadened. Young men starting afresh for this career cannot afford in most cases to become a doctor of medicine

Digitized by Google

first and a doctor of public health afterwards, or an engineer first and a doctor of medicine afterwards. Also the training for the degree of M. D. contains many matters which relate to healing and have practically nothing to do with the prevention of disease. The time devoted to them can be spent to better advantage in the study of other subjects more directly connected with public health administration, such as sanitary engineering and demography.

It is a fatal mistake, therefore, to make the medical degree a prerequisite to public health positions, as it tends to disbar from the service young men who are giving themselves the broadest and best possible education for the positions that need to be filled. Some of our best and most recent laws still contain provisions for this outgrown and unfortunate limitation. The requirement of an M. D. was doubtless made in order to safeguard the service from the political appointment of unfit men, but it now needs modification in order to provide for the new conditions and to admit to the service those who are specializing in preventive medicine and the control of the public health. It is true that the harm will come in the future rather than at present, but it is the future of the service to which we should look. Laws which prescribe an M. D. degree should be amended by the addition of some such modifying clause as this—"A doctor of medicine or a person trained in public health holding a degree or certificate in public health from a school of recognized standing." This would open the field of service to those best qualified to serve and would at the same time prevent the unscrupulous political appointment of unqualified persons.

There is an increasing number of young men who without an M. D. degree are fitting themselves for public health service. What is more they include some of the best of the college graduates, men who have come to realize that they can best serve humanity by helping to maintain humanity's health, men who are going to devote their lives to the cause. The states and cities which remove the present disbarment will get the services of these enthusiastic progressive specialists and will benefit accordingly.

Before the field of service in the public health is fully opened

Digitized by Google

to men without the medical degree it is right and proper that the training which students are getting in the acquirement of a degree or certificate in public health be carefully examined to see if it is adequate. Unless the training is adequate the change in the laws should not be made. I bring before you to-day the program of studies at the School for Health Officers of Harvard University and the Massachusetts Institute of Technology—the first school of its kind in the country, trusting that it will be studied and that we may have the benefit of advice founded on your experience.

The School for Health Officers is conducted by Harvard University and the Massachusetts Institute of Technology, acting in cooperation, through an administrative board appointed for this purpose by both institutions. At the present time the board consists of Professor William T. Sedgwick, Chairman, Professor Milton J. Rosenau, and Professor George C. Whipple. It is significant of the spirit of the school that these men are respectively a doctor of science, a doctor of medicine, and a civil engineer. Dr. Rosenau is the Director of the School, with headquarters at the Harvard Medical School.

The principal object of the school is to prepare young men for public health work of all kinds and especially to fit them to occupy administrative and executive positions, as health officers, or members of boards of health, or secretaries, agents, or inspectors of health organizations. To this end, lectures, laboratory work, and other forms of instruction are offered by both institutions, and by special instructors from national, state and local health agencies. The subjects embraced in the courses of study have been selected to cover a wide range, including medical, biological, hygienic and engineering sciences together with practical health administration.

A certificate in public health (C. P. H.) is granted to candidates who have satisfactorily completed the studies in an approved schedule, who have spent not less than one academic year in residence, and who have otherwise complied with all requirements. This certificate is issued by Harvard University and the Massachusetts Institute of Technology and signed by the presidents of both institutions. The first class graduated in June,

Digitized by Google

1914, when five men received their certificates. It happened that all of these had previously received a medical degree.

The question may naturally occur to some one, why call this a Certificate in Public Health, and not a Doctor of Public Health, or a Diploma in Public Health. The reason is that the degree of Dr. P. H. is already administered by Harvard University in its medical school, and stands for a larger body of work, and a longer course than most men can afford to take or than it is necessary to take in preparation for the public health service. The reason that the "Diploma in Public Health," i. e., D. P. H., was not chosen was because these letters sometimes stand for Doctor of Public Health, and our school desired to avoid giving what might appear to be a doctor's degree, but really was not.

The following are the requirements for admission: Graduates in medicine of Harvard University and other recognized medical schools are admitted upon their records and registered as candidates for the Certificate in Public Health. Bachelors of Science in Biology and Public Health of the Massachusetts Institute of Technology and other recognized institutions are likewise admitted and registered as candidates for the certificate.

Masters of Civil Engineering of Harvard University who have specialized in Sanitary Engineering and Bachelors of Science in Sanitary Engineering of the Massachusetts Institute of Technology and other recognized institutions, who lack the necessary preparation in medical and other sciences, are admitted upon their records, but are required to spend at least one year in preparation before being accepted as candidates for the Certificate in Public Health.

Other graduates of colleges or technical or scientific schools are admitted to the school without examination, provided their collegiate courses have included adequate instruction in physics, chemistry, biology, French and German; but as a rule they are required to spend two or more years in preparation before being accepted as candidates for the Certificate in Public Health. Applications for admission to the school will be considered from those who have spent at least two years in a recognized college or technical or scientific school and have pursued satisfactory courses in physics, chemistry, biology, French and German, and also from persons of unusual experience or special qualifications;

Digitized by Google

but as a rule such persons are required to spend two or more years in preparation before being admitted as candidates for the certificate.

Special students, not candidates for the Certificate in Public Health, who desire to fit themselves for some special field are admitted to the school, and may take any course or courses for which they are properly qualified, on approval of the Administrative Board.

Women are admitted to the School for Health Officers on the same terms as men, and are equally eligible for the Certificate in Public Health. Women are admitted to many of the courses given in the Harvard Graduate School of Medicine, but not to undergraduate courses in the Harvard Medical School. If women require the latter courses they must be obtained elsewhere, preferably before entering the School for Health Officers.

As the school is now in its infancy no uniform curriculum is required of candidates for the Certificate in Public Health. Each student is required to choose a schedule of courses to meet his individual needs. In general, the choice of studies must be such that the candidate on the completion of his course will have covered in a broad way the subjects included in the varied duties of a public health officer, together with such allied subjects as anatomy, physiology, pathology, biological chemistry, sanitary biology, preventive medicine and hygiene, demography and sanitary engineering.

After a few years' experience it is probable that some standard curriculum will be prescribed, but the time for this has not yet arrived, as the qualifications of the average student on entrance remain to be learned. It is probable also that different standard schedules will be made for students who wish to prepare for different fields of work.

Every candidate for the Certificate in Public Health is required to complete satisfactorily each course taken by him and, on the completion of his approved schedule, to submit to a general oral examination by the Administrative Board. This examination covers not only his work in the school but his previous studies and experiences. Last year the oral examination of each student was continued for at least two hours.

Digitized by Google

The courses available in the school are not restricted to those stated in the catalogue of the school but may include subjects in any department of Harvard University or the Massachusetts Institute of Technology, provided the work is in harmony with the objects of the school and meets with the approval of the instructor in charge of the course and of the Administrative Board. Certain special courses are given by instructors not otherwise connected with either institution, and practical work may be taken in city, state and national health departments and in the hospitals of Boston. As time goes it is the intention to increase the opportunities for this practical work, or apprenticeship, which obviously is an important element in a health officer's training.

The courses offered are divided into two lists. The first is a list of so-called regular courses, which demand considerable time and ordinarily cover a half year or more. It is from this list that the student is required to make his principal selection and do his most serious work. The second is a list of special courses and lectures.

The courses are also divided into eight groups according to subject. These groups are as follows:

1 Preventive Medicine
2 Personal Hygiene
3 Public Health Administration
4 Sanitary Biology and Sanitary Chemistry
5 Special Pathology
6 Communicable Diseases
7 Sanitary Engineering
8 Demography (Vital Statistics)

The following is a list of the courses offered last year:

REGULAR COURSES

Group I Preventive Medicine

Principles of Sanitary Science and Public Health. Professor W. T. Sedgwick and S. M. Gunn.

Preventive Medicine and Hygiene. Professor M. J. Rosenau, Dr. L. W. Hackett, Dr. E. S. Birge, and Dr. F. B. Grinnell.

Public Health Problems. Professor S. M. Gunn.

Epidemiology. Professor W. T. Sedgwick.

Digitized by Google

Relation of Animal Diseases to Public Health. Professor Theobald Smith and Dr. Carlon Ten Broeck.

Tropical Medicine. Professor R. P. Strong.

Group II Personal Hygiene

Personal Hygiene. Professor W. B. Cannon.

Personal Hygiene. Professor P. G. Stiles.

Industrial Hygiene and Sanitation. Professor S. M. Gunn.

Group III Public Health Administration

Practical Health Administration. Dr. M. W. Richardson, Dr. E. C. Hanson, and Mr. H. C. Lythgoe.

Sanitary Law. Professors W. T. Sedgwick, S. C. Prescott, R. S. Weston and S. M. Gunn.

Municipal Sanitation. Professor S. M. Gunn, Mr. R. N. Hoyt.

Sanitation of Houses and Public Buildings. Professor S. M. Gunn.

Public Health Administration. Professor S. M. Gunn and Mr. R. N. Hoyt.

Hygiene of Ventilation and Heating. Professor W. T. Sedgwick.

Group IV Sanitary Biology and Sanitary Chemistry

Protozoology. Professors Theobald Smith and E. E. Tyzzer.

Entomology. Professor W. M. Wheeler and Asst. Professor C. T. Brues.

Advanced Bacteriology. Dr. E. C. Howe.

Bacteriology of Tropical Diseases. Professors H. C. Ernst and S. B. Wolbach, and Dr. Austin.

Dairy Bacteriology. Professor S. C. Prescott.

Bacteriology of Water and Sewage. Professor S. C. Prescott.

Zoology and Parasitology. Professor R. P. Bigelow.

Helminthology. Dr. Philip E. Garrison.

Sanitary Biology. Dr. J. W. M. Bunker.

Analysis of Water, Sewage, and Air. Dr. J. W. M. Bunker.

Water and Air Analysis. Dr. J. F. Norton.

Water Supplies and Waste Disposal. Dr. J. F. Norton.

Food Analysis. Professor A. G. Woodman.

Advanced Food Analysis. Professor A. G. Woodman.

Digitized by Google

Group V Special Pathology

Comparative Pathology of Tropical Diseases. Professor Theobald Smith.

Pathology of Tropical Diseases. Professor F. B. Mallory.

Clinical Laboratory Work. Professors H. C. Ernst and S. B. Wolbach, and Dr. Austin.

Group VI Communicable Diseases

Communicable Diseases. Dr. E. G. Place.

Communicable Diseases (Interneship at South Department, Boston City Hospital). Dr. E. H. Place.

Biology of Health Diagnosis. Dr. F. H. Slack.

Public Health Laboratory Methods. Professor S. M. Gunn and Associates.

The Diagnosis of Rabies and Glanders by Laboratory Methods, Dr. Langdon Frothingham and Dr. E. F. Walsh.

Group VII Sanitary Engineering

Sanitary Engineering. Professor G. C. Whipple and Assistants.

Sanitary Engineering — Summer Course. Professor G. C. Whipple and Assistants.

Water Supply Engineering. Professor G. C. Whipple.

Sewerage Engineering. Professor G. C. Whipple.

Limnology. Professor G. C. Whipple, Dr. J. W. M. Bunker and Assistants.

Sanitary Research Laboratory. Mr. M. C. Whipple.

Rural Sanitation. Dr. J. W. M. Bunker.

Hydraulic and Sanitary Engineering. Professor Dwight Porter.

Advanced Hydraulic and Sanitary Engineering. Professor Dwight Porter.

Engineering of Water and Sewage Purification. Professor Dwight Porter.

Theory and Practice of Water and Sewage Purification. Professor R. S. Weston.

Group VIII Demography

Demography. Professor G. C. Whipple and Assistants.

Sanitary Biometrics. Professor S. M. Gunn.

Vital and Sanitary Statistics. Professor D. R. Dewey.

Digitized by Google

Group IX Medical and Other Sciences

The following courses are also open to students registered in the School for Health Officers:

At Harvard Medical School: Anatomy, gross and microscopical; Embryology; Physiology; Biological Chemistry; Pathology; Bacteriology.

At the Massachusetts Institute of Technology: General Bacteriology, Professor S. C. Prescott; General Physiology, Professor P. G. Stiles; Physiological Laboratory, Dr. E. C. Howe; Vertebrate Anatomy, Professor R. P. Bigelow.

At Harvard University: Elementary Bacteriology. Dr. J. W. M. Bunker.

SPECIAL COURSES AND LECTURES

Group I Preventive Medicine

Infant Mortality. Professor J. L. Morse.

Genetics and Eugenics. Professor W. E. Castle.

Social Service Work. Professor R. C. Cabot and Miss Ida Cannon.

Tropical Dermatology. Professor R. P. Strong and Dr. H. P. Towle.

Group II Personal Hygiene

School Hygiene. Dr. T. F. Harrington.

Mental Hygiene. Professor E. E. Southard and Associates.

Venereal Prophylaxis. Professor E. H. Nichols.

Tropical Sunlight. Professor Theodore Lyman.

Posture and Deformities. Professor R. W. Lovett.

Ocular Hygiene. Dr. F. H. Verhoeff.

Oral Prophylaxis. Professor W. H. Potter.

Prevention of Diseases of the Ear. Dr. H. P. Mosher.

Group III Public Health Administration

Sanitary Law — Legal Powers of Health Officers. Professor Eugene Wambaugh.

Medical Inspection of Immigrants. Dr. M. V. Safford.

Municipal Sanitation. Dr. C. V. Chapin.

Digitized by Google

Group IV Sanitary Biology and Sanitary Chemistry

Venomous Animals. Dr. Thomas Barbour.
Poisonous Plants of the Tropics. Professor W. J. V. Osterhout.
Climatology. Professor R. DeC. Ward.

Group V Communicable Diseases

Tuberculosis. Dr. J. B. Hawes, 2d.

This intellectual bill of fare is not as complicated as it looks, but the long list of courses shows the opportunities offered by the educational institutions in Boston for students of public health. In fact the resources of one of the oldest and best known medical schools and the first great engineering school of the country are available, and to these should be added the opportunities presented for cooperation with the Massachusetts State Board of Health, the Board of Health of the City of Boston, the various hospitals in the city, and the excellent medical and engineering libraries.

It is not the food which is put upon the table but that which is eaten and digested which nourishes. It is not what the student has opportunity to learn, but what he does learn that counts. And perhaps the best thing to be said about the new School for Health Officers is that it is a combination of schools which have been noted for efficient instruction and for the hard work done by the students. The Harvard motto "Veritas" is combined with the Institute motto "Mens et manus" — mind and hand working together for the truth, or truth expressing itself through mind and hand. We believe that the spirit which has created these two institutions will not fail to build up a school of public health which will faithfully serve its day and generation.

But lest I be accused of screwing the nut too tightly upon Boston as the hub of the universe let me say that we who shelter ourselves beneath the fins of the codfish do not claim to have a monopoly of the sea. What has most impressed us in making our plans has been not the magnificence of our Boston institutions but the magnitude of the problem which the country has to solve — the problem of administering to the health of a hundred million people gathered from all the quarters of the globe.

Digitized by Google

In conclusion let me restate the ideal for which the School for Health Officers of Harvard University and the Massachusetts Institute of Technology stands — for a body of educated sanitarians working in many fields and well-trained for their particular work — but especially for the health officer whose education is based on all four of the great professions — medicine, engineering, law and social service. And it calls to the states and cities and towns of the country and says "This is the kind of a man you need to protect your public health, a man broadly trained and well-paid who can afford to give all his time and all of the best that is in him to the work." It calls to the legislators and says "Amend your laws so that you can get this kind of men." It calls to the young men of the country and says "The field is ripe for the harvest." And it calls to the other universities and says "Join us in this great movement to secure men for the public health service." Let us all work together for the health of the country and the health of the world.

Dr. Alvah H. Doty, formerly Health Officer of the Port of New York, who was to read a paper on "The Diagnosis of Contagious Disease" was unable to be present at the Conference.

DR. BIGGS.— You will remember that for a number of years there has been agitation for a National Board of Health, and you have noticed that during the last two or three years that agitation has rather died out, and the reason is a very simple one. It is on the surface at least a matter of years. At the time that agitation began the government had a bureau known as the Marine Hospital Service. A short time afterward the name of that Bureau was changed to read Public Health and Marine Hospital Service, and a year or two ago it was changed to read "Public Health Service." By that simple superficial transformation the Marine Hospital Service became the Public Health Service. And as a matter of fact those who are working for a National Board of Health woke up and realized that they had a National Board of Health, a very effective one, a Board of Health, so far as scientific standards of its work went, that would match well with any National Board of Health in the world. And just as that National Department of Health was quietly built up, without any blowing of trumpets, so was the system of education for that same service built up. It was found in the National Health Service, as it must be found in the State Health Service of New York, and in any other health service, that the work needs specific training. If that training can not be found elsewhere, it must be given by the Department that needs the men. And so the United States Public Health Service has built up a corps of trained and efficient men. And we have the pleasure of hearing this afternoon from Dr. John W. Trask, Assistant Surgeon-General of the U. S. Public Health Service, who is to tell us about the training of officers who are to enter the U. S. Public Health Service.

Digitized by Google

THE MAKING OF FEDERAL HEALTH OFFICERS THE TRAINING GIVEN PHYSICIANS WHO ENTER THE UNITED STATES PUBLIC HEALTH SERVICE

JOHN W. TRASK, M.D.

Assistant Surgeon-General, United States Public Health Service, Washington, D. C.

You represent the public health administration in the State of New York. As your Chairman has just said, I am to tell you a little about the men who represent the Federal Public Health Service, the men who do the Federal public health work that is being done; and especially in regard to the training they receive which fits them for their duties. From the addresses we have had it is apparent that the question of getting men that are trained is an important one, and one that must be solved in the interests of the improvement of health administration, both local and in states and for the Federal Government.

The United States Public Health Service is a corps consisting of men whose primary training has been in medicine, engineering, chemistry, zoology, pharmacology, and allied subjects. By far the greater number of the officers are those with medical training. Graduates in medicine who pass an examination given by the United States Civil Service Commission are appointed by the Secretary of the Treasury for certain kinds of work. The officers thus appointed can not as a rule be moved from place to place. The other medical officers are known as commissioned officers, inasmuch as they are appointed for life by the President, by and with the advice and consent of the Senate. These are the officers who are moved about from place to place and perform duties in all parts of the world, wherever and whenever they may be needed. There are at present 170 of these officers.

To be eligible for a commission a man must be an American citizen between the ages of 23 and 32 years. He must be a graduate in medicine of some reputable medical college and must have had one year's hospital experience or two years in professional practice. Before being eligible for appointment, he must

Digitized by Google

pass a satisfactory physical, academic, and professional examination before a board of commissioned officers. Examinations are held quite frequently, usually two or three a year, most often in Washington but occasionally simultaneously in all the larger cities of the country. The physical examination is fairly rigid. The applicant must be not less than five feet four inches, nor more than six feet two inches in height. He is required to divest himself entirely of his clothing in the presence of the examining board, so that any defects, such as stiff joints, may be detected. Various measurements are taken, including those of the thorax, and a general inspection of the whole body is made, noting muscular development, general nutrition, scars, tumors, varicose veins, evidence of vaccination, etc. Then a detailed examination is made of the eyes, nose, ears, teeth, palate, fauces, thorax and abdomen. Examination is also made for hernia. Various movements are then required, including running and hopping, to ascertain the presence of deformities, stiffness of joints, etc. The urine is carefully examined and the applicant's temperature taken. The eyesight is tested both for vision and color sense. The hearing is examined. The reflexes are tested. The state of the applicant's nutrition must be satisfactory. Anything that would impair the officer's usefulness is sufficient cause for rejection. His chest measurements must be satisfactory. He must have no marked abnormality of speech. Every effort is made to pick out only those men who are physically sound and vary but little from the normal or average.

The applicants are required to state in writing the nature of any or all severe illnesses or injuries they have had, and the causes of death of near relatives. They are further required to certify that they believe themselves free from any acquired or inherited ailment or defect — mental or physical — which would disqualify them for active service in any climate. The examining board endeavors also by inquiry and other means to ascertain the applicant's suitability and temperamental and moral qualifications.

After the physical, the board conducts an oral examination to ascertain the applicant's general education and knowledge of current and past events. After this the applicant is given an examination in writing on anatomy, physiology, chemistry, materia

Digitized by Google

medica, practice of medicine and therapeutics, practice of surgery, obstetrics and diseases of women, hygiene, pathology and bacteriology. Following this is a clinical examination at a hospital, where at least one medical and one surgical case is assigned to each to diagnose, outline treatment, and discuss. Usually, the applicant is also taken to a laboratory and required to perform certain ordinary technical operations and examine specimens.

Throughout all the examination special effort is made to ascertain the general aptitude of the applicant and to learn whether he is physically, morally, and mentally capable of making an efficient officer. At no place in the examination is it intended to ask any question or require any knowledge which should not be possessed by a graduate from a good medical school with ordinary hospital experience and an average knowledge of general subjects.

Every officer who has passed the examination for a number of years has been appointed in the service, and the chances are that all who pass for some time to come will likewise be appointed. Original appointments are made to the grade of assistant surgeon, and the regulations for the service promulgated by the president require that for the first eighteen months of duty new officers shall, when practicable, be detailed first for three months at a United States Marine Hospital, then for four months at a maritime quarantine station, then five months at an immigration station, followed by six months in the hygienic laboratory.

It will be seen that when an officer enters the service he has usually had the same preliminary training as the man who enters the practice of medicine. He has still to receive the training which will make him useful as a public health officer. His training has been largely a study of the causes of disease and methods of treatment. He has still to learn much regarding the epidemiology and prevention of disease and its control in communities.

He is usually first sent to a marine hospital for three months. In these hospitals seamen and others employed on merchant vessels of the United States receive medical and surgical treatment. The United States has for more than a hundred years extended medical and surgical treatment to these seamen, to care for whom there are now twenty-three hospitals located in the principal ports of the Atlantic, Gulf, and Pacific coasts, and of the

Digitized by Google

Great Lakes and navigable rivers. In addition to the marine hospitals there are many ports of lesser importance at which officers are stationed to give medical attendance to the service beneficiaries. At these places contracts are made with local hospitals for the keeping of the patients. The ports where there are marine hospitals are known as first class stations, the others as second and third class stations. The officers engaged in this work take care not only of the seamen of the merchant marine, but of employes in various government services, among which are the Life Saving Service, Revenue Cutter Service, Coast and Geodetic Survey, Light House Service, Mississippi River Commission and a few others of less importance.

The young officers when first appointed are sent to the marine hospitals because the work in them is largely of a nature for which they have been previously trained, that is, medical and surgical treatment, and also that they may learn the government's methods and the way in which service work is done and certain details relating to records and correspondence. At these hospitals the junior officers rotate in their duties, and the officer in charge is required by regulation to see that the younger officers receive instruction in service clerical work and hospital administration in general.

After duty at marine hospitals the new officers are then usually sent to maritime quarantine stations. There are 54 of these stations at various points on the Atlantic, Pacific and Gulf coasts. Here the officers witness and take part in the administration of the maritime quarantine. They learn how to inspect a ship and the various things that must be looked for in vessels coming from foreign ports. They learn the details of the epidemiology of such diseases as cholera, plague, yellow fever, smallpox and typhus fever. They also become familiar with the world's distribution of these diseases and the countries and localities in which each is or is likely to be present. They become familiar with the disinfection and sanitary cleansing of ships and become more or less acquainted with matters nautical.

The administration of a practicable maritime quarantine depends essentially upon a knowledge of the localities in foreign

Digitized by Google

countries in which the major epidemic diseases are present. For example, the work of the quarantine officer is greatly facilitated if, upon the arrival of a vessel, the presence or absence of dangerous diseases in the ports from which she has come is known. If the ports from which the vessel comes are free from any unusual epidemic disease the vessel is probably also free from infection, if she is a freighter. If, however, there are passengers, the presence or absence of quarantinable diseases in the localities from which the passengers came must also be known. If a vessel comes from a part in which cholera is present, but in which there is no yellow fever or plague, then the nature of the precautions which must be taken are quite definite, but, on the other hand, if the vessel has come from ports infected with plague but in which there is no cholera or yellow fever, its treatment will be different, and it will still again be different if the port of departure has been one in which yellow fever exists. The only means by which a rational maritime quarantine can be maintained is through the aid of a reliable intelligence service whereby the world distribution of those diseases which it is desired to keep out may be known. The Public Health Service maintains a very complete and extensive intelligence service in foreign countries. This is carried on in part through the detail of officers to foreign ports, but in the main it is possible through the use of the American consular service. There is an American consul in practically every port and city of importance throughout the world. Each consul reports every week on the sanitary condition of the locality in which he is stationed, and, whenever cholera, plague, or yellow fever occurs he reports by telegraph. This intelligence service makes it possible for the Public Health Service to maintain an efficient and rational maritime quarantine. Such a quarantine, it may be added in passing, is not meant, nor intended to be, an absolute safeguard acting as a wall to keep out all infection. Such a quarantine would necessarily be so rigid that commerce would be rendered impossible. Quarantine is rather to be looked upon as a sieve which holds back most of the infection and greatly reduces the chances of its importation, a sieve of which the meshes can be

Digitized by Google

regulated, increased in size under conditions of little or no danger and reduced in dimension when and to the degree that the invasion of disease impends.

The officer at these quarantine stations also learns much in regard to the handling of groups of people containing infected persons, contacts, and noninfected, also in regard to the methods of isolation, which vary in different diseases, depending upon their nature and means of spread.

The equipment of a quarantine station contains among other things necessarily a boat of some kind used by the boarding officer to go out and meet incoming vessels and a boat which contains disinfecting apparatus for use in disinfecting ships, or a wharf along which vessels may be brought for the same purpose. These stations also contain barracks for the housing of numbers of people and their isolation in groups. Among the necessary equipment are also a laboratory, a morgue, and a crematory. There must, of course, be living quarters for the officers and men.

The maintenance of a maritime quarantine is necessary and its measures are rigid in inverse ratio to the sanitary conditions of the territory being protected. The city or territory which is properly built and properly maintained from a sanitary standpoint is little if at all menaced by the occasional importation of an infected person. It is only the insanitary city that needs the protection of a rigid border quarantine.

Officers are usually next detailed for duty in the medical and physical examination of arriving aliens. With hundreds of thousands of immigrants arriving annually, it is highly important that the physically and mentally unfit who would become burdens and public charges, as well as those having communicable diseases who would be a source of infection to others, should be excluded. To keep out these undesirables it is necessary that each alien be inspected on arrival and that a considerable proportion be carefully examined. This furnishes a most unusual clinic and not only an unusual clinic, but one of large size. It is one in which rapidity and accuracy of diagnosis are an absolute necessity. It is peculiar in that the unknown sick and decrepit are scattered among large numbers of sound and

Digitized by Google

physically well. In addition the physically unsound are usually endeavoring to the best of their ability to conceal their deficiencies, so that this clinic differs from most in that the sick instead of trying to find the physician are trying to avoid him. It is a game of hide and seek. This work develops not only rapidity of diagnosis but accuracy as well, for each immigrant usually has friends or associates who will employ legal and expert advice whenever the least doubt exists as to the diagnosis.

The detection of physical deformities and of many ordinary diseases under these conditions is difficult. Of equal importance, although presenting far greater difficulties, is the detection of mental defects and moderate degrees of insanity. Much attention is being given to this work and officers are given special training for it. Considerable success has been attained in keeping out the mentally unfit, and the work will without doubt become more and more perfect as time goes on. In the detection of these defective immigrants, and especially in the study of their mentality, much information and many valuable records of use in other fields will undoubtedly be obtained.

The officers are next usually sent to the Hygienic Laboratory for a period of six months. Here they receive a course of instruction in laboratory work pertaining to public health and epidemiology, including studies in bacteriology, water supplies, sewage disposal, vital statistics, medical zoology, and pharmacology.

The officers are now ready for general service work, but unless some unusual emergency exists each is used for that particular kind of work for which he has shown the greatest liking or adaptability. Many of these men are put into the field to work under older and more experienced officers in the making of sanitary surveys, or in investigating outbreaks of disease or other public health matters. On those fortunately rare occasions when some major epidemic disease presents itself, such as the recent appearance of plague in New Orleans, a number of officers are sent to take charge of eradicative measures.

Every officer wherever detailed in the United States is required to obey implicitly the local health laws and regulations

Digitized by Google

unless such laws or regulations are contrary to federal acts. He is also required to keep in touch with local health authorities and to render assistance when requested. Every officer is also required to report immediately by telegraph the outbreak of an epidemic or the unusual prevalence of disease in the locality in which he is stationed.

The foregoing narrates briefly the formal training given to officers when they first enter the Public Health Service. It really serves merely as an introduction to the many activities which they will encounter in the broad field covered by the service work. Every year means new experience. Frequently officers are necessarily put at work of a kind they have not previously done and for which they have received no direct training for many public health problems are in themselves new and have to be solved, using the experience gained in other work.

At the end of three years' service officers are given an examination relating largely to public health matters. It is assumed that by this time they will have added to their medical training a considerable knowledge of hygiene, sanitation and epidemiology. If they fail in the first they are given a second examination at the expiration of a year. If they fail in the second examination they are dropped from the service.

DR. BIGGS — That ends this session, but I want to detain you please for just one moment while I read some notices.

Digitized by Google

Third Session — Tuesday, September 15, 1914

The following addresses were given at 8.30 P. M., after the dinner for members and guests of the Conference, Commissioner Biggs presiding.

THE HEALTH DEPARTMENT AND THE PHYSICIAN

HERMANN M. BIGGS, M. D.

State Commissioner of Health

I want to speak to you for just a moment on certain phases of the work of the State Department of Health; of what we wish to do in the future; and on what our aims and ideals are, particularly with reference to the bacteriological laboratories. The conception of the scope and functions of sanitary authorities in recent years has been greatly extended and amplified. Aside from certain large problems, such as water supplies, sewage disposal, and the abolition of nuisances, formerly activities of the health authorities were everywhere confined to more or less sporadic and ineffectual attempts at control of the common highly communicable diseases, such as scarlet fever, diphtheria, smallpox, etc., by the establishment of unintelligent quarantine of the sick and the practice of useless disinfection after recovery.

More than twenty years ago I proposed to the Board of Health of New York City the adoption of a more comprehensive policy in relation to the infectious diseases, than had at that time been anywhere seriously considered. In substance it may be stated as follows:

It is incumbent upon the community through the sanitary authorities to supply without cost to the individual everything necessary for the expert clinical and bacteriological diagnosis of infectious diseases and their subsequent surveillance including final disinfection of the premises when this may be necessary, and it should offer adequate modern hospital accommodations for the care and all facilities, remedies and methods necessary for their specific treatment in a hospital or at home.

The first steps in the inauguration of this policy were taken in 1892 in the establishment of the bacteriological laboratory for

Digitized by Google

the bacteriological diagnosis of cholera. In 1893 the bacteriological diagnosis and the sanitary surveillance through bacteriological examination of diphtheria were added. And in 1894, the microscopical examination of sputum for the diagnosis of pulmonary tuberculosis was begun. In 1895 the research bacteriological laboratory was established by the Department of Health, and the production and free distribution and administration of diphtheria antitoxin were undertaken. Shortly after, arrangements were made for the free performance of intubation in cases of laryngeal diphtheria by expert intubators in the homes of the poor. Then came the Widal test for the diagnosis of typhoid fever; the examination of blood for malarial parasites; the making of blood cultures in typhoid fever; the examination of stools and urine for typhoid bacilli, including the research for typhoid carriers particularly in milk-borne outbreaks of typhoid fever. The production and distribution of tetanus and streptococcus antitoxin were begun in 1902.

Meanwhile the hospital facilities for the care of contagious diseases were rapidly increased. A little later the laboratory for specific therapy was established in connection with the Research Laboratory of the Department of Health, and facilities for the bacteriological diagnosis of septicemia by blood cultures and the preparation of homologous vaccine were made available. Lumbar puncture for the diagnosis of cerebrospinal infection, and the production and use of Flexner's serum for the treatment of cerebrospinal meningitis were undertaken.

Earlier, facilities for the diagnosis and treatment of rabies had been provided. In 1904 came the study of the cause of trachoma, and the diagnosis and preventive and curative treatment of ophthalmia neonatorum. Even previous to 1892 the Department of Health had been producing vaccine virus for the prevention of smallpox, and furnishing free vaccination. A later activity has concerned itself with the venereal diseases and their diagnosis; the Wassermann reaction for the diagnosis of syphilis and the complement fixation test for the diagnosis of gonorrheal infection. This last activity has expanded with great rapidity and now bulks largest of all of the work of the diagnosis laboratory of the Department of Health, nearly 200 examinations being made

Digitized by Google

daily. Vaccines for immunizing against typhoid fever are also furnished and administered free by the Department of Health.

I have reviewed thus briefly the history of the development of this work of the Department of Health of New York City because this work had its inception there and because the example of New York City had been very widely followed in this country and Europe, and finally because it illustrates fairly well what I conceive to be the proper attitude of the State Department of Health in its relation to the medical profession of the State. In my judgment the State Department of Health should be prepared to furnish all those facilities that are furnished by the New York City Department of Health, which can be made practically available in the smaller towns and rural districts.

You will readily understand in comparing this rather formidable list how great are the advantages which the citizen and physician in New York City have over the citizen and physician in the country districts of this State. This disparity must be removed and will be removed so far as it is possible and as rapidly as funds are made available by the Legislature for this purpose. It is my desire and purpose that the State Department of Health should offer laboratory facilities and services in the diagnosis and surveillance of infectious diseases of the highest character. And we desire to extend every assistance and coöperation within our power to the physicians of the State in their work in the diagnosis and treatment of infectious diseases.

Now I want to say just two or three words in regard to our staff. We have high ideals; we hope to make the Department of Health of the State one of which the State may be proud. And we feel that we have reason to congratulate the State on the men whom we have succeeded in inducing to accept positions on its staff. As I said this morning, I believe that never before in the history of sanitary science of any State has a corps of men been gathered together who have the scientific training, the experience and the qualifications as the corps which the State Department of Health now has. And I want to refer for just a moment to these men so that you who are coming in contact with them shall know something of them.

Digitized by Google

In the first place, I feel that we are most happy in having as Deputy Commissioner of Health a man of the highest attainment, whom we wished to have as Commissioner before I accepted that position — Dr. Linsly R. Williams. Dr. Williams was for years a member of the Metropolitan Sewerage Commission of New York, Director of the Association for Improving the Conditions of the Poor, and actively interested in public health work, actively identified with it in New York. And because of his interest in public health, he gave up a lucrative practice there and a position there to come here and accept this position. There could not be, in my judgment, a better man for Commissioner or for Deputy Commissioner than he.

The Secretary of the Department, Mr. DeLancey K. Jay, graduated from Harvard University Law School, and was formerly Secretary of the American Embassy in London. He gave up the practice of law to accept the position here of Secretary to the Department of Health. We felt that for the position of Secretary we must have a man who had legal training, and in searching for such a man I was fortunate enough one day to see Mr. Henry White, who was formerly the American Ambassador at Paris. And he said, "I know exactly the man for the place. It is Mr. Jay." And Mr. White was quite right.

I found when I became Commissioner of Health, in the position of Chief Engineer of the Department of Health, a man who is a graduate of the Massachusetts Institute of Technology, a most excellent engineer, capable, industrious, conscientious, intelligent, of the very highest character, who had been long identified with the work of the Department, and he is still the Chief Engineer of the Department — Mr. Theodore Horton.

In looking after a Director for the Division of Vital Statistics there was one man in the United States who stood out distinctly as the man. He was Chief Statistician of the Census Bureau in Washington. And it seemed as if we could not offer him much of an inducement to come and take this position. But we succeeded in inducing him to come over, and Dr. Cressy L. Wilbur as the Director of the Division of Vital Statistics is, in my judgment undoubtedly the best man in the United States for this place.

Digitized by Google

In looking for a Director of Laboratories, Dr. Prudden, a man whom you all know by reputation if you do not know of him personally, recommended a man whom we all know — Dr. Augustus B. Wadsworth — who was formerly Assistant Professor of Bacteriology in Columbia University. Dr. Wadsworth accepted the position of Director of the Laboratories, and I know that any one who has had any relation with the work of the laboratories will agree with me that he is the ideal man for that position.

In the position of Director of the Division of Child Hygiene, there had been associated with the Department of Health a man who is well-known throughout the country in this work — Dr. Henry L. K. Shaw. He had been associated with the Department in a more or less consulting position. We induced him to take the position of Director of the Division of Child Hygiene. And I know you who have known something of the campaign for the prevention of needless loss of child life which has been carried on in New York State during the summer will feel that there could not have been a better man for that position than he.

For the Division of Communicable Diseases we found a man who is a graduate of Johns Hopkins University, who was a student in the course of Public Health in Massachusetts Institute of Technology and Harvard University, who was Director of Laboratories of Syracuse Department of Health, a most earnest, conscientious, enthusiastic and intelligent worker — Dr. Fred M. Meader.

In the corps of Sanitary Supervisors we felt that these men should be on the Civil Service regulations. We had an examination in which 160 men came up for examination. The examination was held by a board which was nominated by the Public Health Council, and the Board consisted of our Director of the Division of Publicity and Education, and Dr. William H. Park, the Director of the Research Laboratories for New York City Health Department. And that Board selected from the men who stood near the top of that list, a corps which I regard as most creditable to any sanitary organization.

And then as the Director of the Division of Publicity and Education we were fortunate enough to find Professor C.-E.

Digitized by Google

A. Winslow, who is the ideal man. He was Director of Public Health in the American Museum of Natural History and Professor of Biology in the College of the City of New York. He resigned his position there, gave up his academic life, to accept this position as Director of the Division of Publicity and Education.

Now I believe that with such a corps of men, with such a staff and corps of Sanitary Supervisors, with such a group of devoted health officers as we have in this State, that we shall be able to attain the end — that of making the Department of Health a model, the State Department of Health a model for the rest of these United States. I wanted you as Health Officers of the State to know this little personal history of the staff in order that you shall have a different feeling, a feeling of confidence and respect and affection, if I may so speak of it, in these men, and the kind of feeling which their qualifications and their personality will surely justify.

I have taken already too much of your time, and I do not need to introduce to you the man who is to follow me. The Governor in speaking this morning of the hundreds of thousands of school children who were attending the school houses which dotted the hills of this great State, said there was not one boy or girl in any one of those schools who would not be a better boy or a better girl because John H. Finley was Commissioner of Education.

Digitized by Google

THE DEPARTMENT OF EDUCATION AND THE SCHOOL CHILD

JOHN H. FINLEY, LL. D.
Commissioner of Education

Dr. Biggs in characterizing the Executive staff of the State Health Department omitted to say anything about the most important member, himself. I am bound to say that, with such a staff as he has described, an incompetent man might succeed as Commissioner. But when it is known, as it is or is coming to be, that we have in addition to this wonderful staff the best public health commissioner in the United States, what may we not expect of this Department? I can not say more of him, than to accept his estimate of his associates and assistants, and then to add that he is worthy of such a staff.

This is a most important and significant meeting,— it is most refreshing to me coming from the neighborhood of the fields of slaughter to find here such a body of men and women hopefully at work for the saving of human life.

In that bit of modern satire "Erewhom" by Samuel Butler, which Bernard Shaw characterizes as the best of its kind since "Gulliver's Travels," the author depicts, in a startling story of his adventures in a strange country, the treatment of the sick and of the criminal. In that unidentified land the people were of amazing beauty — the men were strong and handsome and the women beautiful. Even in middle age the latter were still comely, and the "old gray-haired women had a dignity, not to say majesty, of their own." Even the poorest children were "well kempt and tidy."

This state of physical health and beauty he intimates is attributable to the rigorous treatment of the sick, who are dealt with much as we deal with criminals. If in that country a man falls into ill health, or catches any disorder, or fails bodily in any way before he is seventy years old, he is tried by a jury of his countrymen, and if convicted is held up to public scorn and sentenced more or less severely as the case may be. The Health Department has the courts and prisons and probation officers. One of

Digitized by Google

the most striking chapters describes, among other trials, the trial and conviction of a man in the last stages of consumption who was not permitted to plead prenatal misfortune or unwholesome environment in extenuation of his condition.

This is in its purpose a satire on our treatment of the morally sick, who, in that Utopian land, if guilty of arson, forgery or robbery, are taken to a hospital and placed in the care of professionals known as "straighteners." These moral straighteners are the doctors of that civilization, those "who bend back the crooked."

But the satire intimates that the imaginary race of masculine strength and feminine beauty and child kemptness are to be developed by a rigorous and vigorous community (that is, State) preventive and corrective treatment. This governmental policy had its support, to be sure, in the attitude of the people toward ugliness and disease. There were hideous, grotesque statues at the mountain passes into this land, designed to propitiate the gods of deformity and disease, and it was whispered that in the earlier centuries they had actually offered up some of their own people who were out of health. (There were, also, it is interesting to know, though this is not pertinent, many statues in public places of prominent men. If by chance a man whose memory it is desired to perpetuate is "homely" as we should say, he gets the handsomest of his friends to sit for him. That is considered the highest compliment one can pay to another).

I saw in the dining hall of one of Cambridge Colleges a few days ago, the day before I left England, the portrait in oils of the author of this satire, painted by himself, and I could wish that the publisher of his "Note Book," which appeared a short time ago, had used as frontispiece this portrait instead of the photograph in which he sat for himself.

"Erewhom," as you know if you have read the book, or have divined if you have not, is the "Land of Nowhere." Only in imagination is it the "Land of the Ideal Somewhere," the land where the race approaches its physical perfection. It is the land or state toward which we are all looking, even if we shall not find our physical Utopia through such a pathological penal code as that found in vogue in Samuel Butler's "Erewhom."

Digitized by Google

That ideal state I have visualized as rising from this one; and one of my ambitions of late has been to write the geology, history and geography of this upper super-Empire State; not the state which we hope to find when we leave our bodies, but that state which we can reach only in and through our bodies, with our feet on the earth.

I have traveled from one end of this physical State to the other within the last few months; through vineyards of Chautauqua, the orchards of Genesee, the hop fields of Madison, the vegetable gardens of Mohawk, the flower gardens of Hudson, by the window boxes of Manhattan, and out upon the truck farms of Long Island. I have been impressed by the variety and richness of the earth in this Empire State, which produces here a grape, there an apple, here a turnip, there an orchid, here a geranium, there a head of cauliflower. The miracle is wrought perennially.

And yet as I have looked from the uncultivated strips along the railroad, where nothing grows but evanescent wild flowers, weeds, shrubs and grass, I have been constantly reminded that all this variety and this productivity have been possible only through the bodies of man and the spirits which it carried into the fields. The Almighty had first to create a human being who, through centuries by thinking and by training his eye and hand, the cultivation of himself, should make possible the cultivation of the earth, so that it could support such a mighty population as has come upon it.

The Almighty is dependent, and I say it with all reverence, upon this biped who has come among the mobile creatures of earth to give relief from His inexorable laws, to make possible the rich development of the fields which before the coming of the white biped supported only one human being in ten square miles, to conquer cold and heat and to stay pestilence.

But as I have traveled I have become interested in that other state which is superimposed upon this one — the invisible state for which the other really exists and without which the other has no significance. I am thinking of the state which consists of the thoughts, the aspirations, the struggles of men's spirits in these bodies; not the sum of its tangible products, its milk and potatoes, its fruit and honey, its metals and manufactures, its forests and streams and mountains.

Digitized by Google

Traveling over in the State of Massachusetts some time ago — a state which has been tauntingly called a "state of mind," but which might vauntingly say this of itself — I could but overhear what a very attractive young woman was saying to a handsome young man, her newly acquired husband,— "Why should one live in such a rocky, barren place when one might live in Montana?" And if productivity of the land were all, if the upper state, into which bodies had lifted spirits, were not existent, if Whittier, Emerson, Lowell, and others such as they had never lived, than perhaps Montana would have an advantage over Massachusetts.

But Whittier has association in the traditions of my mountain valley with a cart load of potatoes and a boarding house; and in reading Lowell's letters a few weeks ago I found his complaint that the "gout seldom tolerates any distraction on the part of those it visits." The gates to the upper state are biological, as those to that state whose boundaries we know best are geological.

And so, my brief message to-night to the physical "straighteners" of this state, while it contemplates the victories of the spirit of man, would be in kind like that of Lord Kitchener to the men of England's expeditionary force to France. You must have been struck by the remarkable document. He did not remind them of the ages that were looking down upon them. He did not make an appeal to their emotions. He said in effect, "You have a hard fight in front of you. On the way there will be temptations; two in particular. Resist these. Keep youselves fit for the fighting." And if this advice is good for war times, how much better is it for peace times, for the children in those expeditionary forces we are sending to work out the destinies of a democracy in the twenties or thirties or forties of this new century.

I should like to put beside that letter of Kitchener's one which is not less stirring to me. I gave it to Dr. Biggs some time ago for his bulletin, but as some of you may not have seen it, I repeat it here. It is addressed to that expeditionary force of which I have just spoken, the school-boys of to-day, and was written by President David Starr Jordan:

"So live that your afterself — the man you ought to be — may in his time be possible and actual. Far away in the twenties, the

Digitized by Google

thirties, of the twentieth century, he is awaiting his turn. His body, his brain, his soul are in your boyish hands. He can not help himself. What will you leave for him? Will it be a brain unspoiled by lust or dissipation, a mind trained to think and act, a nervous system true as a dial in its response to the truth about you? Will you, boy of the twentieth century, let him come as a man among men in his time, or will you throw away his inheritance before he has had the chance to touch it? Will you let him come, taking your place, gaining through your experience, hallowed through your joys, building on them his own, or will you fling his hope away, decreeing, wanton-like, that the man you might have been shall never be?"

The Health Department and the Education Department have together a task incomparable, the task of conserving the "after-selves" of the boys and girls of to-day. While contemplating the ideal state, these two departments must be as plain in speech, as practical in advice, as rigorous in discipline as the head of an army of men who are going into battle. The bodies of those whose spirits are to strive in the struggle of democracy of the '20's and '30's and '40's and '50's, must be as fit, as our wisdoms, our disciplines, our sacrifices can make them.

There are times when bodies must be forgotten, given up even for something which is more important to the race than man's bodies. But in childhood and in youth, the supreme thing is the preparing of these bodies to carry spirits through the marches and the battles of their "after-selves." If they have to come back to the schoolhouse, as many of them are to-day returning to the schoolhouses in France, now turned into hospitals, may it be with a gratitude to those who then tried to make them fit both in body and in mind for the great after struggles.

COMMISSIONER BIGGS — The next speaker is the formerly distinguished Commissioner of Health of Chicago, and the latter a pioneer in publicity work in public health. I am going to ask Professor Winslow, our Director of the Division of Publicity and Education, to introduce him.

Professor Winslow — Mr. Commissioner, it was my privilege some years ago to spend one year in Chicago as Exchange Professor at the University, and I saw a great many things of keen interest, but nothing I think that made a deeper impression upon me than the then Health Commissioner of that city. I followed his work, I followed him about in his work; I heard him speak first, I think, to a group of Presbyterian ministers, and he told them some of the things that were going on in Chicago, told them about the death rate of infants. He said "Gentlemen, this is up to you. Christianity

Digitized by Google

is not doing its work in Chicago while these things go on. You ought to see that these things stop." I heard him speak to a group of Polish citizens. He told them the infant mortality rate was higher in their race than in any other in the city. And he said to them. "This is up to you. It is your problem. We are ready to help you, but it is up to you fellows to do something to remedy these conditions and to cease to bring disgrace upon the city." I heard him speak upon one occasion that is very vivid in my memory, at a moving picture theatre where his address was part of the regular program for that afternoon and evening. And after one of the turns of the moving picture shows was over he stepped up from the front of the theatre, stood in front of the curtain, and he spoke right at those people. He told them what was the matter with South Chicago, and you could have heard a pin drop in that theatre. Not a man or woman went out while he was talking to them. And I saw the publicity work that was done, the weekly bulletin and the press service in the newspapers, and the addresses and the notices on the bulletin boards of the factories. And I realized then, I think for the first time, what a force public health could be made in a community. And I came to understand how it was that they spoke of him as they do. Of course to-day he has passed beyond the limits of the city; you all know of his work for the Chicago Tribune, you all know him as editor of the Health Story which is carried in the biggest newspapers all over the country,—Dr. W. A. Evans.

Digitized by Google

THE HEALTH DEPARTMENT AND THE PUBLIC

W. A. EVANS, M. D.

Formerly Commissioner of Health of Chicago; Director, Health Department of the Chicago Tribune

I am very grateful to Professor Winslow for this introduction. I remember very well the pleasure that we had from Professor Winslow's stay in Chicago, and the service that he was to our people. He has told you, because evidently at that time there was a "chiel amongst us taking notes," of the fact that we were working everybody and every institution in that city. We have not yet ceased to reap that which came to us by reason of the visit of Professor Winslow to Chicago. We used him for some of those talks and he was responsible for some of that publicity. And after that experience I can say to you, with certainty — certainty in my own opinion — that he will do here in the State of New York a publicity work that is well worth while.

Now, gentlemen, this is not the first time that I have appeared before the Conference of Health Officers of the State of New York. Eleven years ago I was present at what was the Third Conference of New York's Health Officers. I see no familiar faces here to-night, that is to say I see no face that was made familiar at that time. Now there are two directions that my mind might take in consequence of this. In the first place I might consider that I was a sear and yellow leaf, perhaps that I was the last leaf left on the tree, that I was of another age and generation. But we are not very fond of thinking along that line. And I should prefer to think, although you may not, along this line — that the Health Officers of the State of New York have changed, and probably frequently, in the course of the last eleven years. There isn't much tenure of office for a Health Officer in this or any other State in the Union. In fact in all probability you spend about the greater part of your time as Health Officers, or your predecessors have done so, in getting born into the work. I heard of a boy about seven years old, that went to school for the first time. He was being questioned, as

Digitized by Google

is the custom at the present time, about the experience of his family life. He was asked if he had ever had any sickness and said, "No, not any." "Have you ever had a doctor?" And he said, "Yes." "When?" "About seven years ago." "And what was that for?" "I was getting born."

Now in the ordinary state and under the ordinary condition of affairs, the local health officer consumed about all of his time "getting born," and by the time that he was properly born he was ready to shuffle off or be shuffled off. Something like the epitaph on the tombstone of a baby, "What wert thou begun for thou are so soon done for."

Gentlemen, I am here to-night to speak briefly on the subject of the newspaper in relation to publicity, or publicity for health. I would like very much indeed to speak in the emphatic, in the flowery, in the instructive and in the entertaining way of the gentleman who has just occupied the floor. I am reminded, gentlemen, of New York, that this is the harvest season, and that the rich harvest you have just listened to was in reality the result of the years of philosophizing through which John Finley went when he lived out on the prairies of Illinois. That it was the life of his youth out there that evolved the man, and that you here in New York City and New York State are reaping the harvest of those years. But I have chosen rather, ladies and gentlemen, to speak to you somewhat technically because it is my sincere belief that the time has come for something of analysis in this matter of publicity.

I was talking with a Chautauqua manager recently, and he told me that tuberculosis was no longer a profitable theme on a Chautauqua platform, that it had been ruined. I want to say to you — one of the great educational influences of this country has changed, new as it is, but where so much of our education must be brought about after the years of school life have terminated. I want to say to you that the Chautauqua platform is an influence of power, and that those of us who are interested in the tuberculosis movement lost an asset when we lost the power that came to us through the Chautauqua platform. And this man said that this opportunity had been destroyed by the fact that when the want was expressed, that there came a response from men

Digitized by Google

untrained in public presentation, and that in consequence the desire had not been met, and that it no longer existed.

Now I believe that we are in somewhat the same danger at the present time with reference to publicity, and therefore I am going to ask your indulgence while I treat this subject somewhat technically, and I fear in a measure that is somewhat unentertaining.

Health work embraces many kinds of activity with many ends in view. In determining the efficiency of this work we have a paucity of standards. We would like to demonstrate results by demography charts, including vital statistics. Unfortunately, however, but one division of vital statistics is even approximately correct — that is death statistics.

Therefore when we want to prove our point, when we want to say something that the public mind is prepared to comprehend, we say, though somewhat erroneously, that the object of health work is to lower death rates.

The work of lowering death rates, better expressed when addressing this audience as the conservation of health and the promotion of efficiency, we divide into public and personal hygiene.

To make headway in public hygiene it is necessary to change the customs of a people. To make headway in personal hygiene it is necessary to change the habits of a people.

It is a difficult matter to change the customs of a people. To change their habits is still more difficult. Neither can be accomplished except by education. Legislation can not accomplish the task, nor can the administrative efforts of any health department, whether it be known as a health department, or children's bureau, or industrial department, or safety first department, or by any other name.

I know something of the literature of the controversy as to whether a people go forward more rapidly when, on the one hand, in the mass fellowship is developed, whilst leadership is left to a trained group theoretically the fittest to lead. Or, on the other hand, when both fellowship and leadership are developed out of the masses. I am prepared to admit, even to contend, that for progress in certain lines speed is gained through a trained leadership.

Digitized by Google

But when it comes to changing the habits and customs of the people, to altering the daily bread, the work, the pleasures, the recreations, the petty vices, even the size of the family, no gain of ground can be held except where the governed are governed by consent of the governed. This means that to make worthwhile headway a Health Department must make use of publicity.

When I became health commissioner of Chicago nearly eight years ago, I reasoned that the only way by which I could persuade that free-and-easy young community to stand for an aggressive militant health department was to go to them with our proposals, to ask them to permit us to change their customs and habits in some small degree.

To do this we organized a Lyceum Bureau and a press service and we courted the newspapers assiduously. There is a certain tang needed to convert an ordinary recital into a newspaper story. As to what that is I will try to tell you presently. We tried to develop that quality in the men who worked together to make the thing go.

In our bulletin we relegated statistics to the back of the booklet and we put the stories on the first page. Every bureau chief and every assistant bureau chief was expected to contribute a story or more a week and from these the material to be printed was selected.

The statistical week ended at noon on Saturday. Before that hour every part of the booklet was set up, space being left for the statistical story. By 5 p. m. the bulletin was in type and galleys were en route to the office of the large dailies. A separate weekly service was organized for the 200 newspapers published in Chicago and not coming under the head of the metropolitan English-speaking dailies.

The only reason for this recital is that it was a method used nearly eight years ago. To-night your excellent press service is proof that you understand the need of publicity in health work. Professor Winslow sends me your press service matter. In timeliness, tang and personal interest it is much superior to that which we put out. The only reason for recalling the yesterday was because it pioneered for to-day. I am sure you are more interested in the newspaper end of my story.

Digitized by Google

Of this be certain, you can not make any impression on public opinion in America unless you get into the newspapers. You can not change the customs and habits of the people unless you keep in the newspapers. Certain things you can do through the public schools but effort in that line has this drawback — you must wait a generation for results. When you get them the results can be radical and far reaching but, oh! the patience needed for that twenty-year wait.

I think I have vision enough to see the day when in this country there will be a Lloyd George or a Bismarck who will make health the keystone of a great governmental program — when on this issue we will elect presidents. When that day comes, health will have to get into politics. I am willing as a newspaper man to admit that politics as an educator, a moulder of opinion, a changer of customs and habits, is superior to the press. I am true to the traditions of Saratoga, when I express the opinion that in this race politics is first, the press second and the rest nowhere.

I will presently present my views as to the method of presentation necessary when health gets into politics. But in the meanwhile, having laid the foundation by outlining the task, let us discuss one of the machines to be made use of — the newspaper.

A newspaper has one unqualified asset — its advertising. From the standpoint of the food and raiment of a newspaper its circulation is a liability, a necessary liability but a liability nevertheless. The consumer, that is the reader, gets what he buys at less than the cost of producton. At this very minute newspapers are suffering serious financial embarrassment because the war is greatly increasing the number of readers, somewhat increasing the cost of production and somewhat decreasing the receipts from advertising.

But when a newspaper ceases to have readers in large numbers it ceases to be a profitable advertising medium. And advertising men are as wise as the serpent. They buy no gold bricks. They know that the moon is not made of cheese. Therefore, a paper to get advertising, must circulate, it must have readers and more than all, it must carry weight when it introduces its advertisers to its readers.

Digitized by Google

In order that a paper shall be appreciated by its readers it must have at least four qualities. I state these qualities in the order of their importance.

First, it must entertain. Our life is so strenuous, we work under such pressure, that we must have relaxation. Our newspapers must entertain us, must divert us, must relax us, and they must do it in our way — not in anybody else's way, not even in the paper's way. If we want to relax by reading baseball the paper must get out baseball extras. If we are slangy about baseball the baseball writers must be slangy in their writing style.

Second, a newspaper must instruct and enlighten. Our school education is but a bit of education. It endures but a bit, it engages but a bit of the people and then only for a bit of their time, and the newspaper must supplement it. To-day the newspaper is the school of the adult — the little red schoolhouse, the college, the lyceum and the Chautauqua all rolled together.

Third, a newspaper must print the news. In doing this the newspaper is the neighborhood gossip, the Mrs. Grundy. In communities where gossiping by mouth thrives, newspapers do not thrive. Thriving newspapers in a town is the best proof that Mrs. Grundy is dead. Unquestionably the greatest stimulant of a reading clientele is the news — the gossip.

If one newspaper could monopolize the news it would monopolize the readers. But with the Associated Press, the United Press, various city presses, the telegraph, telephone and wireless, it is not possible for any paper to get much news advantage over its competitors. In the course of a year the scoops pretty nearly balance. The World may scoop the Sun to-morrow, but next week the Sun will scoop the World.

From the news standpoint there is not enough difference between the competing newspapers of a community to explain the difference in reading clientele of the different papers of that district. Which brings us to the quality which makes the difference.

Fourth, a newspaper must have character. It must hold the confidence of its clientele. It must win readers and hold them. It must prove to the community that it can sway its readers.

In introducing its advertisers to its readers it must do so in an

Digitized by Google

atmosphere of integrity. Its readers must regard it as a paper on which is stamped the hallmark of character.

To consummate this desired end it is necessary that a newspaper should fight battles for principle. In fighting these battles it must not degenerate into a common scold. It must be tolerant of the minor human frailties, it must be very human, very patient, very sympathetic, but ready to strike with power, persistence and courage when need demands. A reputation for fighting for principles gives a paper character, wins for it confidence, makes it influential, places a hallmark on the introduction which it gives its advertisers to its consumers.

It may help you to understand what I mean by reciting for you some of the battles for principle which have given character to the Chicago Tribune, the paper with which I am connected. When the fight against slavery was in need of friends the Tribune fought for abolition. It promoted the cause of Abraham Lincoln when he, a country lawyer, was fighting against slavery. It was a staunch defender of the Union in the darkest days of the Civil War.

Holding that U. S. Senator Lorimer's election had been unfair it undertook to have him unseated. When one vote of the Senate had sustained Lorimer, instead of stopping, the editors gritted their teeth and went at their task with greater determination than ever.

They launched the fight for a sane Fourth. When this fight was begun a mass meeting was held at which Father Dorney, one of the shrewdest judges of public opinion in Chicago, said the customary method of celebrating the Fourth is too thoroughly established as a custom of the people, as a custom too dear to the heart of the people to be overthrown by any effort. The Tribune undaunted stayed on the job until the Nation had changed its custom.

Long years ago quacks were excluded from its advertising columns, then whiskey was excluded, then habit-forming drugs and medicines, and now nothing of drug advertisements are carried except liniments, external applications and laxatives. Nothing that can lead to abuse or drug habit or can do any harm is allowed in its columns.

Then came the loan shark crusade.

Digitized by Google

Then a year ago they drove the advertising doctors out of Chicago. A few are now reentering the field but they can not advertise except by handbills. I may say that the cheapest, easiest, one of the most spectacular and one of the most beneficent campaigns ever conducted by the Chicago Tribune was that against the quacks. I give you an illustration of a character maker from another Chicago paper. Only yesterday morning, at the head of the editorial column of the Chicago Herald, appeared the following editorial:

AN APOLOGY

The Herald desires to apologize to those of its readers who saw in one of its Sunday editions a page advertisement of an alleged catarrh cure. The advertisement found its way into the paper without the knowledge of the editor. As soon as he saw it he killed it. The Herald does not want the dirty dollars that come from this kind of advertising.

And yet another. Just before leaving Chicago I was called up at the Tribune office by the business office of the Illinois Staats-Zeitung. They wanted to know whether they should accept a certain medical advertisement. He repeated to me what had been told me often under similar circumstances, that the Staats-Zeitung would not accept medical advertisements disapproved of by the Tribune and that this was the attitude of the foreign speaking press of Chicago.

This fight against drug addiction, against bad habits, the promotion of efficiency, the prolongation of life, and against high death rates, is just the kind of a fight for principle as tends most to give a paper character. Knowing this, is it not plain that you have and will continue to have newspaper support? Briefly I will estimate for you the present attitude of newspapers toward the health movement.

You will understand that there are two divisions in the organization of a newspaper — the news and the advertising end. The news force is divisible into the reportorial force, the editorial force and on some papers the Sunday force.

Toward the health movement the editorial corps is most sympathetic. They are open to ideas. They are receptive to suggestions. Some of them have more vision and a broader horizon for their

Digitized by Google

concept of the health movement than most of the health workers themselves. Some of them not only understand the relation of health work to developed disease but also know the sociology and political economy of it. Of few health officers can this be said.

In the printing of health and particularly medical news stories many mistakes occur. Some stories are printed which are misleading and deceptive. Some meritorious stories are killed. To change this at once will require some change in the organization of the local room.

The City Editor works under enormous pressure. News stories come to him in rapid succession during a brief period. The forms are locked at a certain hour. The story news to-day will not be news to-morrow. Do you wonder that some medical stories get by which should be stopped and some stories are stopped which have both educational and news value?

The ideal arrangement would be for the paper to have a health adviser, whose hours of duty would be from about 3 to 9 p. m. Here and there a publication may hold the matter important enough to make use of a health consultant. The average paper must bear with these breaks until such time as the reporters and editors know better how to value health stories.

More mistakes are made in the magazine or Sunday editions. My observation indicates that the ability to value a health story from American sources is very good. It is the story originating abroad which most tries the judgment of our editors and in which most mistakes are made.

In this section there is ample time for consultation. The first plans for a given paper are outlined about three weeks in advance, the final plan is made six days in advance and the mazagine section is printed two days in advance. Therefore there is ample time to submit stories having sanitary, health or medical aspects to consultants. The local health officer or a committee from the local medical society will help to advise in case the paper does not wish to make a more definite business arrangement.

It is with the advertising page that we have most complaint. In my opinion, given time, the cure for the advertising-doctor evil and the advertising-medicine evil is education.

The first of these evils exists because the people do not know enough about medicine to form intelligent opinions of medical

Digitized by Google

men. About the only doctor now advertising is the men's specialist doctor. When the newspapers print the truth in plain words about venereal diseases, variocele, hydrocele, lost manhood and similar conditions, the men's specialists will find they can not live.

The patent medicine business is the result of the belief that drugs must be taken for every ache and ill. Medical men themselves are largely responsible for this opinion. When the people are educated against the promiscuous use of drugs the patent medicine business will end.

But what is to be done immediately? In my opinion the matter can be left to the papers themselves. The advertisers associations are at work on it. The strongest papers in the country now decline advertisements of advertising physicians and a fair percentage of them decline the advertisements of patent medicines. The great substantial advertisers from time to time refuse to be placed on the same page with patent medicines and advertising doctors. The custom is changing as rapidly as readjustments will allow.

I know that the men in charge of the advertising pages of the great papers are giving very serious thought to the question of advertising of medicines and by medical men. Some have adopted one plan, some another. Most large papers have some rules with which such advertising must comply. Some have high standards, some low ones. But the very fact that there are standards is proof that the *vis inertia* has been overcome. My opinion is that the present leaven will accomplish the desired end. The remedy is now in the making.

I am sure that, all in all, the newspaper machine is ready for the dawn of the health age. The ammunition for the use of this machine must come directly or indirectly from the sanitarians.

The newspapers are anxious to print all the health news, all the health information and all the health arguments which you will furnish them in *toto* or which you will direct and stimulate them to develop for themselves. But, they know news, they know a story, they know a punch, they know what the people want. They are experts in estimating the popular interest. They will not use stuff that makes no appeal.

Therefore, gentlemen, I urge you to give thought to the manner

Digitized by Google

of presentation of that which you send to the newspapers. We health officers have wares to dispose of. Do we give proper thought to the methods of approach? How many of us know anything about schools of salesmanship and what is there taught? Has anyone written a psychology of health publicity as Scott and Angell and others have written on the psychology of business?

The remainder of this paper deals with the psychology of what may be termed the Health Publicity Situation.

I trust that you will not accept my word as final. My hope is that what is said may stimulate thought in you to the end that, from thought, agitation and discussion, in time there may come some sort of rules,—and, certainly, that there shall come some correction of some mistaken methods at present in use.

No great good will be accomplished by the lecture method on the platform or the didactic essay method in written articles. In the first place, the ordinary medical style is not fitted to popular presentation. It is entirely too negative-minded. There are too many ifs and buts, too many qualifying phrases, too many exceptions to the rule. The popular mind will not prove receptive to ideas presented in that way.

If you have not already done so, let me suggest that you read Le Bon's "The Crowd, a Study of the Popular Mind." In my opinion the mob psychology as seen by Le Bon is the psychology of the crowd before whom the issues of a heated campaign have been joined, or perhaps the every day psychology of a very mercurial people. An appeal to the every day view of our people must be more logical, more argumentative.

In health publicity there is a place for the slogan. While it makes no great appeal to reason, it wins by one principle of good advertising, namely, securing results by constant reiteration. By slogans I mean such phrases as "Swat the Fly" "Dirty Air is Death" "Too much Fresh Air is Just Enough" "Health is Purchasable." The number of these should be increased. But it is wise to give careful thought to every slogan proposed, that the punch of slogans may not be lost.

The place for slogans in a newspaper is in the editorial paragraphs, somewhere on the title page, or at the head of a table of contents. In time I think we will make use of paid-for advertising space to popularize ideas through slogans.

Digitized by Google

Even now on occasions great gain for health measures comes from making them the subject of political discussion. An idea which is accepted as a matter of fact does not make much headway. To get an idea advertised into every strata of society it is necessary to have it controverted. I will illustrate.

When in 1908 we proposed a tuberculin-testing-pasteurization ordinance for Chicago, we were lucky enough to have it opposed by the small milk dealers. They secured as their champion an opinionated, combative alderman. Thanks to his efforts the ordinance became controversial and everybody in the community participated in the discussion of the milk question.

The alderman was egotistic and energetic and the pasteurization discussion was advertised much beyond the limits of our city. And in part at least, through the energy of this uninformed but shrewd hay dealer, scores of milk ordinances in all parts of the United States have been drawn along the general lines laid down by the Chicago ordinance of 1908.

The object of the ordinary everyday newspaper article in a medical or health question is to persuade the people to change their habits and customs. The first quality which it must possess is character and authority. The name signed to the article must be one which carries authority. The article itself must have the air of authority. The need for authority is paramount.

The ideas must be simply expressed in short sentences. The vocabulary used must be that of the reader.

Whenever a thought ventures very much into the unknown it is very necessary to tie it very closely to some well-known illustration drawn from the every day. It is not advisable to try to get statements overaccurate. To do so means so many qualifications that the central idea is smothered.

Here and there statements and ideas must stand well above their surroundings. In fact, it is well to place some very graspable statement, some thought with hooks on it, in the opening paragraph. The attention having been caught it will hold through a dozen or more less interesting though perhaps more accurate sentences.

In every article of 500 words there must be at least one solid statement of fact or usable bit of information, and, remember.

Digitized by Google

the average reader is interested in the "hows" rather than the "whys".

This serves to introduce an important point. In writing you must constantly ask yourself what does a prospective reader want to know? How can you appeal to him? On this subject, what does he know now? What can he understand? On a given point raised for discussion, how will his mind work?

For those who have mastered the subtleties of presentations, something is gained by stating points so as to provoke a wee bit of opposition, but not too much — a faint line of questioning in the mind of the reader. He counts himself lucky if some of his readers disagree with him and tell him so. Wherever possible, in the central office of publicity and in the communities throughout the State, maintain a question and answer departments. Do it for your own good. Without it you will get out of touch with your people. You must have a way to feel their pulse, and the questions-and-answers department, is that way. I am sure if it had not been for that department in my column, I would have dwelt almost altogether on public hygiene, in which the people have slight interest, and but little on personal hygiene, in which the people have more interest, and not at all on the mysteries of the human machine in which the people have most interest — and I would have missed my chance to feel the heart throbs of the people.

The efficacy of pictures will depend very much on the stage of a campaign. In the earlier stages they are most serviceable, but like charts, diagrams and tables, pictures soon pall. Of course I refer to the pictures we have. No one has yet arisen with genius to so paint the tragedy of disease as to grip the souls of men.

I have never thought much of the efficacy of the health article in which levity and instruction are mingled. If it be argued that most men are tired with the day's work and in no mood for serious thought, I can see the force of the argument. But such articles lack the savor of authority and, if the heavier method of presentation does not always register, it can be replied that no presentation registers except in a minority of cases.

I think there is a field for the novel which teaches health lessons. However the novels of this type familiar to me, accomplish

Digitized by Google

little. When it is plainly evident that the characters are preaching the presentation has no freshness and spontaneity and it lacks the advantage of frank pronouncement. My idea of a health novel which would help is this.

The health views should be stated briefly and as though they were accepted by everybody — without any argument or lecturing, and on the basis of them the author should proceed to tell his story and weave his plot. Such a novel would do great good because the readers would accept the health postulates unargued and store them away as a part of the accepted rules for the day's work — most advantageous from the psychologic point of view.

And now, gentlemen, you propose to change the customs and habits of the people. To do so you must get into both the press and politics. The press is ready for you. The imperfections in the present machine are on the way to being righted.

Politics is not quite ready for you as yet in America.

It is a part of your duty before you undertake to use either of these machines to learn the science and art of approach.

COMMISSIONER BIGGS — We all feel under very great obligations to Dr. Evans for his admirable presentation on the question of publicity.

The greatest asset, in my judgment, of the State Department of Health is its Public Health Council. The Public Health Council has power to establish a sanitary code. We are fortunate in having with us tonight Dr. Simon Flexner of the Council, who will speak on the "Influence of Scientific Research in Relation to Public Health Work."

Digitized by Google

INFLUENCE OF SCIENTIFIC RESEARCH IN RELATION TO PUBLIC HEALTH WORK

SIMON FLEXNER, M. D., LL. D.
Director, Laboratories of Rockefeller Institute for Medical Research

The time is passing quickly, and while I do not know at what hour this morning your conferences began, yet I suspect that you have been attending meetings all the day. It behooves me, therefore, to be brief.

You will admit that the statement that anything which extends medical knowledge or promotes public health work is a truism. The proposition, therefore, that scientific research in the laboratory advances public health work rests on the evidence which can be brought to the effect that such research actually extends medical knowledge. In this connection it is to be regretted that because of the mass of matter that must be taught medical students within a brief period of three or four years it is impracticable to point out the sources of origin of the knowledge sought to be conveyed.

It is therefore quite natural that many serious as well as able men and women who study medicine assume that the knowledge which they are receiving and which they expect to apply in practice has been acquired almost wholly in the treatment of the sick. The facts are quite the contrary, since each year sees a larger share of that practical knowledge derived from experiments performed in laboratories and often conducted on animals.

We are fond of speaking of modern medicine, meaning, of course, to contrast present medical practice with the practice of ancient medicine. But we often fail to keep clearly in mind at all times that what particularly characterizes modern medicine is its scientific foundation. It may, I suppose, be doubted whether present day physicians are better observers of the sick than were the leaders of ancient medicine. But we have learned an immense amount of physics, chemistry and biology in modern times and have been reaping for some years the reward of the application of the principles of those sciences to the solution of medical problems.

Digitized by Google

And thus the poor sick person, who was, at an earlier epoch, not only the patient but also the subject of every new venture in medicine and thus at one time the object of relief and the source of unintentional experiment, supplied the knowledge for future employment and application.

In the nature of the case, however, he could furnish at best fragmentary knowledge of a limited range compared with what is now secured by the employment of animals in the study of problems in physiology and pathology and what is yielded through advancing knowledge in the physical and biological sciences.

Thus it happens that when modern methods of determining the condition and efficiency of the circulation are applied to patients we are employing results of the study of the circulation of the lower animals in the laboratory, for the most part; while many of the refined tests applied to the organs of digestion and secretion have been procured by similar means. Indeed, even many drugs which have grown in favor within the past ten or twenty years and are now in daily use have had their first tests made upon animals in which the effects in health or in disease have been observed before they came to be applied to the treatment of human maladies.

But as public health officers you are more nearly concerned with questions of the limitation or eradication of conditions which underlie the prevalence of the communicable diseases. I should like, therefore, to refer briefly to one or two examples of pure laboratory study, as it were, which have had the effect of clarifying and facilitating the carrying out of such measures. One of the speakers has referred to the subject of tuberculosis as being at present an unprofitable topic for a Chautauqua platform. I dare say this is true, since its sensational aspects have become dulled by familiarity. To that extent the propaganda on tuberculosis may be considered as having to a measurable extent reached its goal. But the subject is, however, just as important for the public health officer, as ever. Consider, therefore, what laboratory experiment has accomplished in demonstrating, quite contrary to the view originally promulgated by Koch, that all mammalian tuberculosis is not alike but that the bacilli of human and bovine tuberculosis are distinct and specific.

Digitized by Google

This fundamental observation of Theobald Smith raised at once anew the question of the degree of communicability of tuberculous infection of cattle to man and *vice versa,* concerning which question our knowledge has grown by leaps and bounds, enabling us today to lay down rules which affect not only the public health directly but also through economic aspects, which can never be left out of account.

We may cite as another instance that extraordinary biological fact that is dominating so many of our efforts at practical sanitation today, namely, the instance of insect transmission of infection. The opening up of that great field was accomplished not by the study of sick persons but of sick cattle, and not in the sick chamber or hospital but in the field, and again by Theobald Smith, a trained biological investigator employing laboratory methods fortified by the rare gift of imagination and power of rigorous experimentation. Finally, let me remind those of you whose medical experience extends a quarter of a century or more into the past that not so very long ago the doctrine of the microbic origin of disease was not, as now, undisputed. Many will remember the controversy which raged between the defenders and opponents of the notion of the spontaneous generation of the microörganisms concerned with fermentation, putrefaction and infectious disease; and there will be recalled how the microscope was employed to decide disputed points by displaying the microbes within the materials under discussion. The contest was, of course, won against those who denied the microbic origin of the several processes mentioned and who believed that the simple forms of life exhibited were in each instance created anew out of inanimate organic particles present. But we have now to consider what the effect upon this dispute would have been had the notion of the existence of microörganisms invisible even under the highest powers of the microscope come into play. In all probability such a contention would have weakened the case for those who believed in the preexistence as against the spontaneous generation of microbic life.

Today, on the other hand, so well intrenched is the conviction of the germ origin of disease that we have no difficulty in accepting the fact of a score or more of diseases occurring among animals

Digitized by Google

and plants as being caused by a class of microörganisms which are so minute as to exceed the power of the microscope to bring them into view.

It is perhaps well to emphasize this point just now when it seems that the condition of invisibility of the so-called ultra-microscopic or filterable viruses is not, after all, unalterable. With the cultivation of the microbe of poliomyelitis or infantile paralysis a demonstration has been brought that when such minute organisms are massed in cultures they can, after all, be readily and distinctly viewed under the highest powers of the microscope although it still remains true that because of excessive minuteness separate individuals cannot be distinguished certainly from the elements of the organic fluids and tissues among which they lie.

To you, the health officials and officers of the State of New York, no elaborate argument is required to point the meanings of the several examples I have presented, as well as other, perhaps even better ones that have been left unstated and may occur to you. The proposition that the scientific foundations of medical science are the real foundations of the practice of the physician and the sanitarian needs no real defence; and it is emphasized with peculiar force at this time by the inclusive plan outlined by the commissioner to establish diagnostic laboratories at several points in the State in order that physicians generally may profit by the assistance which such laboratories now offer.

COMMISSIONER BIGGS — The Governor in his address today spoke of his interest in maintaining the standards of medical education and medical practice, and the importance of this. We are fortunate in having with us tonight the Assistant Commissioner of Education, Dr. Downing, who will speak on this topic.

Digitized by Google

THE MAINTENANCE OF THE EDUCATIONAL STANDARD IN MEDICINE

AUGUSTUS S. DOWNING, LL. D.
First Assistant Commissioner of Education

I realize how long and faithful a day you have served the ate of New York, and I have sat too many times the Assembly Chamber at Albany listening to the arguments ainst vivisection to perpetuate at this hour so apparent a ıelty upon my own kind as to address you for any length of ıe on the maintenance of the standards in medical education. It falls to my lot to protect your interests so far as may be ısible in the administration of the Medical Practice Act of s State. And I feel more or less satisfied, considerably more ın less, to have been able to be of service last winter in making ɜ of the five arguments against the destruction of the medical ıctice in this State, when I opposed the amendment known as 'he Christian Science Amendment." The argument was made, in opposition to any one's religion, but in opposition to any postor who claims that he can cure disease, and is willing to e the money of the deluded and ignorant.

'here are standards to be maintained in your profession, aside m those of educational standards. The standards within your ı ranks are not held as high as they should be. You know it well as I, and I know it only too well with my contact with ɑ who would be practitioners in this State.

'here are 101 medical schools in the United States. There thirty-four of those medical schools that require two or more rs of college work for admission. There are fifty more that uire one year of college work for admission, making eighty- r in all, that are above the high school requirement. There are States in the Union that through their laws or through their ex- ining boards are in advance of New York State in statutory or rd requirements for admission to the medical schools. That ht not to be for New York has always led in setting standards medical education.

Digitized by Google

After all, ladies and gentlemen, physicians consider that in making standards for admission to medical schools, that there are two purposes in view; one of that great institution at Baltimore, which requires a bachelor degree for admission, and which teaches men through a long period of time to become instructors of other men who would practice medicine out among the masses; the other type of school that must directly prepare men to conserve public health, to practice preventive medicine and to cure disease. It is therefore a grave question whether it is more desirable to add in this State a year of academic study, as a prerequisite for admission to a medical school of the State, or rather to add a compulsory year of hospital practice before any man shall be licensed to practice medicine. Whether before any man shall be allowed to perform any major surgical operation, he shall not have a graduate course in surgery and serve at least a year under some expert skilled surgeon, who will vouch for his ability to perform such major surgical operations.

These are questions that you, as members of your profession, need quite as much to study as the question of whether we shall by law raise the standard from a four-years high school course with physics, chemistry and biology as basic studies, to one or two years of college work as an entrance requirement. We have already in this State, Cornell with her three years requirement; the College of Physicians and Surgeons in New York, and Syracuse University Medical School with two years college entrance requirement; Bellevue with one year college entrance requirement; and beginning this year, Albany, Buffalo and Long Island Colleges making the same requirement.

With all this what are you doing, what are we doing through this advanced standard for the people outside of the large centers of population? Are we taking away from the country people men trained in the conservation of life and in the curing of disease? The State Education Department is charged with the responsibility of the maintenance of these standards. We hear all over the State the cry that there is a dearth of physicians in the rural communities. Why? We hear of unskilled men going out into the rural communities. Should they be allowed to go out? Should not the State of New York in the interest of

Digitized by Google

public health raise the standard for admission to the medical profession, the licensing? Let the schools take care of the admission requirements for the study of medicine, but let the State make the law that no one shall practice medicine who hasn't after his passing through this school for four or five years as it may be, had one year's training at least in a hospital, and a certificate from that hospital that he is worthy to enter the licensing examination. And then if he passes the licensing examination, give him a license to practice.

There are varying standards within your professions as there are in the school. When last winter before the Legislature there was a chiropractice bill, and a naturopath bill and a Christian Science bill, and what not else to lower the standard of the practice of medicine in this State, your own State Society hardly lifted its finger to stop the passage of those bills. There was absolutely nothing done. The rank and file of the medical profession did not keep posted on maintaining the standards. Our office is not a prosecuting office, it is simply an informing office, and administrative office. So ladies and gentlemen, I want to bring home to you the fact that while the State Education Department is charged with the administration of the law, you gentlemen who are in the profession are charged with maintaining of a standard within the profession so that the standards shall not be lowered by legislative action. Your Commissioner of Health and his able assistants did much with the Legislature to stop the passage of those nefarious bills, but they will bear me out in saying that you did not; the members of boards of health, and physicians all through this State, did comparatively nothing.

So that I would bring to you this message on the Maintenance of Standards in the Medical Profession — that you can not leave it to the State Department of Health and officers in Albany, you can not leave it to the State Department of Public Instruction, and expect that those two departments working to an end as they do, can maintain those standards. But when next winter there comes before the Legislature a bill for an amendment, to raise the standards for the practice of medicine in this State,

Digitized by Google

see to it that the State Department of Health and the State Education Department shall have your unanimous support and the support of all the physicians of this State. That when those nefarious bills come before the Legislature for the absolute destruction of the practice of medicine in this State, you through your legislators shall kill such bills in order to maintain the standards that through fifty, sixty, and one hundred years we have been trying to build up for the conservation of public health. With all the physicians of this State, thousands as they are, with all the members of the local boards of health supporting your own State Department of Health and supporting the State Education Department, New York will once more take its lead in the United States in carrying forward the standard of medical education. And it will not be as it is now, with letter after letter coming to my desk to know why New York has fallen behind in the matter of leadership in medicine.

COMMISSIONER BIGGS — I am sure you have plenty of food for thought. The proceedings for the day are finished.

Digitized by Google

Fourth Session — Wednesday, September 16, 1914

The Conference was called to order at 10 A. M., Deputy Commissioner Linsly R. Williams, presiding.

DR. WILLIAMS — Any one who attentively listened to the addresses yesterday must have realized that there were two significant facts in regard to yesterday's meetings. The first, it seemed to me, was that there was placed before us as health officers an ideal and a standard — an ideal to be lived up to and a standard to be maintained. And the second, and equally important fact, that education was of necessity a prime factor in instructing the people how to change their customs — and in the words of Dr. Evans, "and in instructing the individual how to change his habits."

Publicity must be given on the question of communicable diseases, which must never in any case be misleading. I do not know how the health officers as a rule feel as a result of yesterday's meetings, but to the State Department Staff at Albany, it was an inspiration to have had ideals placed so high, to have had standards urged upon us to be maintained, and to have had urged upon all of us the necessity of educating the public.

Today we begin more purely individual public health problems. And this morning's session will be devoted to farm sanitation; water supply; tuberculosis conditions, which are vitally important especially in villages and rural communities. And at the close of the first two speakers' addresses, the city health officers will withdraw, and Professor Winslow will give an announcement as to where they will proceed from here.

The man who will speak to you first is a man known to most of you, a man who has done work for the Department of Health in years past on the matter of water supply, sewage disposal, and in engineering investigations. I trust that his book on Farm Sanitation is known to most of you, and I hope that a great many of you have it. A member of the Public Health Council, and Professor of Sanitary Engineering in Cornell University, it gives me great pleasure to introduce the first speaker, Professor Henry N. Ogden.

FARM SANITATION

PROFESSOR HENRY N. OGDEN

Member of Public Health Council

You will all agree with me in the statement that for pure self-gratification, nothing approaches the good feeling that follows doing good to some one else — particularly when it costs us nothing. To remember that yesterday we gave away to some beggar an old suit of clothes that we couldn't wear any longer makes us generally feel so virtuous that we can buy a new suit and still feel wealthy. So, I suppose, our efforts in the direction of "Farm Sanitation" are apt to bring their own reward because they are in the nature of good works done to poor but deserving neighbors.

Digitized by Google

Rural hygiene and farm sanitation are popular phrases among sanitarians just now. One hears on all sides expressions that indicate how heavily the rural health lies on the sanitarian conscience. One writer or speaker refers to rural typhoid and its causal influence on city typhoid. Another pictures vividly the restricted farm diet, alternating between salt pork and soggy biscuit. Another dwells on the hot, stuffy living room, with its red hot stove surrounded by steaming boots, overalls and children in respective rows. Another appropriates the infant to his cause and begs consideration and appropriations for his betterment. He enlarges on the old-fashioned remedies used, on the paregoric murders and on the general ignorance of the first principles of infant welfare as we know them today. So we are all stirred to protect the poor farmer from the effects of his insanitary sins and are willing to go to some trouble to set the farmer right.

But unfortunately the farmer does not seem to be anxious to be set right, at least not as anxious as we would like to have him. He is distinctly self-assertive and individualistic — willing as one writer puts it, "to continue wallowing in his own filth" and he shows an astonishing resentment from our altruistic standpoint at our well-meaning intrusion. I am therefore not going to take your time this morning by retelling you any of the old trite maxims of public health. I am not going to dwell on the iniquity of the farm well, so much maligned and usually the first and most certain bone of contention between the sanitarian and the farmer. Nor shall I mention further the farm privy, although it would be the easiest way for me, an engineer to fill up my time allotted.

But I shall rather suggest to you *four things to do,* things that I believe every town and village health officer ought to do in order to successfully better conditions in his jurisdiction.

First. He ought to keep his accounts accurately, intelligently and up to the minute. I know of course that doctors are bad bookkeepers, that they forget to charge up their visits, that they do not always put down their cases in their case-books, and that any form of arithmetic is for them to be avoided as much as possible. But I have no hesitation in saying that the records of vital statistics and their proper interpretation are the basis of

Digitized by Google

all intelligent health improvement work and if any health officer does not know the present conditions of life and death in his district, how can he effectively direct his energies towards their improvement. Therefore first know the population of your district, from a definite source; that is, do not guess at it, or take the word of anybody but know. The census reports give the populations of towns, sometimes with villages included and sometimes without. Find out the rural population of your town and make allowance for the change since 1910. Then know the number of deaths in the district for a number of years past and compare the number of deaths from each disease per 100,000 population with those of the State as a whole or with the rural part of the State. Take typhoid fever for an example. The State rate for 1913 was 10.3, the city rate was 9.7 and the rural rate 12.1. These figures mean nothing to you unless they induce you to make your district under rather than over the general rate. The town of Greenwich, Washington county, last year was reported with a population of 4,243 and 4 deaths from typhoid fever. Dividing the latter by the former, after adding 5 ciphers, gives a rate of 94.3 for that town for last year.

When you know the rate in your district then you can study the causes of that rate, particularly if it is above the average and then how to reduce it. This latter is your problem, calling for a high grade of intellectual activity and putting the work of the health officer on the highest possible plan.

Or, take influenza. The State rate for 1913 was 14.0, the city rate 8.6 and the rural rate 31.7. In the town of Richland last year the rate was 103.3. After you know how the rate in your district compares with these rates then it is your task to determine the cause of the disease, or the predisposing factors and to fight it or them until the country rate is at least as low as the city rate.

Or, take pneumonia. The State rate was 94, the city rate 97, and the rural rate, 85. Yet last year the town of Whitestown, Oneida County, had a rate of 192.8.

Or, as still another example, take deaths of children under one year as compared with the number of births in the year. In the State in 1913 there were 228,533 births reported and

Digitized by Google

25,015 deaths of children under one year, that is 109.5 deaths per 1,000 births. In the cities the rate was 109.2 and in the country 110.5. But in the village of Depew, Erie county, the rate was 176.7 and in Lackawanna 403. How does your district compare and what can you do to reduce the present rate?

Let me add, before leaving this first point that the published records of population and of deaths are of little use to a country health officer because the unit is altogether different. The country in vital statistics of the United States government includes all villages under 8,000 population and conditions in the real country are not at all the same as in the vital statistics country. So you must get your own figures from your registrar from the town clerk, from the newspapers, from every available source, and if you should incidentally find the records of the registrar incomplete and inaccurate, and are able to prove it to him, such a jolt will do him no harm. Do not rest until in each of your districts the death rate from contagious diseases is lower than that of the State as a whole.

I should like to see established in the Department a roll of honor for the 1,200 rural health officers, rating them according to the low morbidity rates that they have been able to bring about and to show the names of the health officers of whom the State is proud, not because they have acted wisely and well in an outbreak of disease but because there has been no outbreak in their district. Perhaps the Department, once a year, might print the names of all the health officers of the State with the death rates from the several contagious diseases in their districts attached.

The *second* thing, that I believe every town or village health officer ought to do is to exert himself, overcome his natural diffidence, in the way of educating the rural population. How to do it best is his problem. Probably in no two districts will the best methods be exactly the same. In some the best way will be to talk to the children in the district schools with the permission of the teachers, on such subjects as "catching cold" or first signs of measles, or reasons for breathing fresh air. Tell them how much more work mill operatives do in fresh air than in foul, or, how fresh air schools have increased the results of school work and arouse their interest in trying it.

Digitized by Google

In other districts, association with the grange and its list of lectures may be the best way. But remember always that talk is cheap and the farmer has been stuck too often with cheap things to take much more stock in them. You have to show him, to prove it to him till he is convinced, that ventilation is a good thing, for example. Or, that eating fruit regularly before breakfast tends to prevent constipation and is better than pills; or, that pure water, used freely in drinking, tends to reduce kidney troubles, etc. Hard, cold facts, hammered in slowly, one at a time, will surely make an impression.

Or, perhaps, stereopticon lectures at the churches may be the best way. The Department has slides and lectures ready to loan. But the latter are best when home made and illustrated with local material. Once stir up local interest and belief in the direct transmission of colds or any children's diseases: once convince the mother that her Johnnie is sick in bed with measles and her burdens double because last week her neighbor's Mary Ann went to school when she had a bad cold in her head and a respect for colds and a proper isolation will surely follow and the first step will have been taken to reduce the death rate.

Or, it may be that a house-to-house social visitation will be the best. A pride in the locality and its conditions can always be depended on to secure cooperation in any improvement measure and it is your business to direct such a pride in the direction of public health improvement.

The *third* thing, that I think the town and village health officer should do is to pick out some one line of offense and push it forward. Suppose in your district you find that the death rate from tuberculosis is higher than that of the rest of the State and that you are interested in that particular disease. Then fight that disease hard. Get the State exhibit or a part of it and show it at every schoolhouse, a day or two at each place. Lecture about tuberculosis. Hunt up all the suspects in your district. Get the pamphlets from the Department that tell the patients how to act that will not infect others. Fill up the county tuberculosis hospital and if necessary have a bigger one built, but do not stop until you have your finger on every case in your district and are sure that there is going to be no further spread of the disease.

Digitized by Google

Or stamp out diphtheria in your district by being prompt in getting throat cultures whenever you hear of a bad case of sore throat and by administering antitoxin furnished by the State to the patient and to exposed persons, if the culture is positive for diphtheria, or work against typhoid fever, or influenza, or measles, or whooping cough, or any other disease. But pick out something and work at it, not neglecting others, but putting special interest and push into some one thing.

The *fourth* thing, that I suggest is that the health officer is bound to do what he can to improve living conditions on the farm, because unquestionably the strength of constitutional diseases as well as of contagious diseases lies in bad living and housing conditions. But example is always better than precept and one illustration is worth a page of description, as authors say. Then hunt out in different parts of your district some enterprising young farmer and work on each of them. Stimulate him to put in a water supply and a sewer, to have fly screens and a covered manure pit, to have large ventilated sleeping rooms and to have a varied dietary. And then talk about it to the neighbors. Know the cost of each item, and so spread the fashion that the time will soon come when every farm house in your district shall have started along the same road as the typical farmhouses and farmers that you have fostered.

May I then repeat the four things that I believe the town and village health officer among others should do to promote and improve farm sanitation —

1 Know actual conditions by studying the vital statistics of the district, statistics that he has himself collected.

2 Start at once telling the children of the district about their bodies and how to take care of them, both individually and collectively.

3 Pick out some contagious disease, or the infant death rate, and attack it with special vigor, until in every particular your district stands better than the State as a whole.

4 Slowly but gradually raise the standard of living in the district by providing examples of good practice in such houses as the tact of the health officer may provide himself with.

Digitized by Google

DR. WILLIAMS— You will note by referring to the program that it would have been more consistent had Professor Ogden's paper followed Dr. Knopf's, in order to be associated with the latter part of the program on the fifth page. Professor Ogden is needed at a meeting of the Public Health Council, which meets at 10.30 o'clock, and we will postpone the discussion of his paper until after the other discussions have been opened on Farm Sanitation a little later.

The Tuberculosis problem is not a new one to us, and yet to many of us it isn't a matter of more than eight or ten years since we have taken an active interest in tuberculosis. To a small number of men tuberculosis has been an active interest for twenty or twenty-five years. A very small group has been doing work in the interest of tuberculosis — urging fresh air and climate, urging rest and moderate and appropriate exercises, and urging proper food for a matter of twenty or twenty-five years.

It is our good fortune to have with us today a man who began his work in medicine in the subject of tuberculosis. Receiving his entranceship at a noted sanatorium abroad, working with the famous Detweiler coming to this country and writing the famed essay on tuberculosis for the Alvarenga prize, and one who has stood in the breach on many an occasion in not only New York City but far and wide throughout the State and other states, to speak on the subject of tuberculosis before all classes of people. He has come here this morning to read us a paper on "The Health Officer and the Tuberculosis Problem in Rural Communities, with a Practical Demonstration of Physical Diagnosis of Early Pulmonary Tuberculosis," and it gives me a great deal of pleasure to introduce to you Dr. S. A. Knopf of New York City.

Digitized by Google

THE HEALTH OFFICER AND THE TUBERCULOSIS PROBLEM IN RURAL COMMUNITIES

S. ADOLPHYS KNOPF, M. D.

Professor of Medicine, Department of Phthisiotherapy, at the New York Post-Graduate Medical School and Hospital; Visiting Physician to the Health Department's Hospital-Sanatorium for Consumptives at North Brother Island, N. Y.; Consulting Physician to the Sanatoria at Gabriels, N. Y., Scranton, Pa., the Bruchesi Tuberculosis Institute, Montreal.

When your Commissioner, the Hon. Hermann M. Biggs, M. D., invited me to address this Annual Conference of the health officers of the State of New York on the problem of tuberculosis in rural communities, I was at first surprised and for a moment could not think that there should be any great difference between the tuberculosis problem in the city and in the town or village. But after some reflection I can well see that there is indeed quite a difference in the method by which tuberculosis must be attacked in a community which on the one hand has not the administrative machinery of a large city, and where on the other because of the close personal relations, friendly and neighborly in many instances, the health officer seemingly has not always a free hand to say and do what he thinks is best for the interest of the community at large.

Take, for example, the spitting nuisance. Many a worthy inhabitant of a small village or town, should he be forbidden to expectorate freely where he pleases, when in winter he with his neighbors congregate around the warm stove in the grocery store or post office and solve the problems of the universe, would consider an antispitting regulation an infringement of his inalienable rights as a free American citizen. The same would probably hold good if when sitting in summer in front of his own home he should dispose of his accumulated pulmonary or bronchial secretions or the juices of his chewing tobacco on the sidewalk. It is difficult for this worthy citizen to see how by such an uncleanly and insanitary habit he may not only injure himself and his family but the entire community.

When, in addition to this, as it happens not infrequently, the careless spitter is upheld by some worthy but retrogressive mem-

Digitized by Google

ber of our profession, be it because of political or family antagonism to the present incumbent of the health office, then there surely will be discord and continued spitting. Of course, there are exceptions, but I know that situations such as I have just described do occur and they make the carrying out of sanitary regulations exceedingly difficult in rural communities.

Tuberculosis, according to chapter II of the Sanitary Code, belongs to the communicable diseases which must be reported to the Health Officer. I can readily see how in a small community there occasionally arise unpleasant feelings when the health officer insists upon reporting such cases. The fear that after being reported a stigma will be fastened upon an individual or family is often an inducement to hide the disease. We all know the danger of the tuberculous individual to a community small or large when he behaves as if he were not tuberculous. Even if he should be careful at home because of the advice of a conscientious family physician, he will often be careless when away from home, disseminating his seven billion bacilli per day by the deposit of his sputum where it will have a chance to dry and pulverize and be inhaled as bacilliferous dust by others. He may also propagate his disease through droplet infection. It is very strange how this latter source of infection is sometimes overlooked by otherwise well-trained physicians. The expression "dry enough" is even used by some medical men, yet you all know that small particles of saliva are expelled during the cough, even if the individual does not expectorate.

You are all familiar with the laws of June 15, 1913, and the amendment to the county law in relation to tuberculosis hospitals of April 14, 1914. Whenever a county hospital for the care of tuberculous patients is about to be established, I know from experience what a prejudice is aroused among the people against placing such an institution in the vicinity of any community, and there is also the prejudice of many tuberculous individuals against entering such an institution. To be brief we may put it this way: The most difficult phase of the tuberculosis problem in rural communities is phthisiophobia — the exaggerated fear of the presence of a tuberculous individual. On this fear is based the disinclination of prospective patients to have their chests

Digitized by Google

examined during the onset of early symptoms, such as cough, loss of weight, rise of temperature, hoarseness, sanguineous expectoration, etc. They and their relatives fear being stigmatized in the event tuberculosis is diagnosed and reported. Phthisiophobia is responsible for the disinclination to obey antispitting laws, the disinclination of the community at large to have tuberculosis hospitals or sanatoria in the neighborhood, and last but not least, the disinclination of individuals to enter these institutions for treatment and cure.

To some of you younger men with less experience it might sound strange when I tell you that the majority of tuberculous individuals think themselves perfectly harmless and are afraid to enter tuberculosis institutions for fear of becoming infected there; and this fear is not infrequently shared by other members of the family. We all know that the successful treatment in the home of the patient, while feasible in some instances, is impossible in many. And yet, upon the early discovery and the prompt treatment of the tuberculous invalid at the right time and in the right place depends in no small degree the solution of the tuberculosis problem.

What can the health officer of a rural community do in the face of these tremendous difficulties which confront him in his honest and sincere effort to be helpful in the combat of tuberculosis?

Will you permit me to answer this question by picturing to you my ideal of the health officer of a rural community, and then in the lively discussion which I hope will follow my humble contribution I beg you to show me wherein my conception falls short. We will then have before us a worthy ideal for you to follow.

First of all, the model health officer of a rural community must be an ideal man; he must be beloved for his personality, and for his tact in dealing with patients, with his fellow physicians, and the other authorities in the community. He must be a thoroughly trained sanitarian. While it would be desirable for him to have a degree of Doctor of Public Health besides the degree of Doctor of Medicine, this to my mind is not absolutely essential; but he must be a thoroughly trained medical man to whom his fellow practitioners can look up and on whom they can call for counsel.

Digitized by Google

In last week's issue (No. 36, Vol. 29)* of the Public Health Reports, published by the U. S. Public Health Service in an article entitled "The Making of Health Officers," my good friend Assistant Surgeon-General John W. Trask, in deploring the fact that "there are exceedingly few men with requisite training from among whom the thousands of local health officers can be appointed," recommends a correspondence course in health administration and allied subjects for improving the efficiency of these officers. I most highly approve of this suggestion but would urge that facilities for clinical instructions should be provided in addition, for the ideal health officer should not only be versed in sanitary science in general and be familiar with all the means of preventing endemic and epidemic diseases, but he should also be an expert diagnostician of communicable and contagious diseases, which knowledge can not be acquired by correspondence.

Besides being all this he must have not necessarily the gift of oratory, but the ability to give good practical talks to physicians and to laymen on medical topics, sanitation, and the prevention of disease. Last but not least, and I say this with all due respect for the authorities, the health officer of any county must and should be paid a salary high enough to make him independent of practice so as to enable him to devote all his time to his official duties. The position should be for life, as long as he is able to do his duty. It should never depend upon political preferment.

If the community is too small to maintain a well-paid health officer, let us follow the suggestion of Mr. Geo. J. Nelbach, of the Tuberculosis Committee of the State Charities Aid Association, and unite a number of the smaller communities under the administration of one health officer, who because of being well-paid can be held responsible for the sanitary conditions of the various communities comprising his sanitary district or unit.

And now, what are his particular duties concerning the tuberculosis problem? After having united with his fellow practitioners of the community to form an antituberculosis league, after they have pledged themselves to aid him in a conscientious war not against the tuberculous but against tuberculosis, he should

* "The Possibility of State Departments of Health Improving the Efficiency of Local Health Officers by Means of Correspondence Courses."

Digitized by Google

give regular popular talks to the town or village folks on the prevention of this disease, of course always under the auspices of the local physicians. The conscientious health officer should prepare himself carefully for such tuberculosis conferences. Pray, do not think that it is so very easy to talk the language of science in the language of the people. Nothing is more difficult than to avoid scientific terms when accustomed to them, and at the same time nothing is more detrimental to the good effect of a popular medical talk than the use of big words and phrases familiar to the medical ear but sounding like Greek, Latin, or Hebrew to the lay mind.

Let the lecturer begin by defining tuberculosis not as a dangerous contagious disease but merely as a communicable one, which only becomes dangerous through ignorance and carelessness. I ascribe the wonderful success of the antituberculosis work in New York city, inaugurated by your distinguished commissioner and my distinguished teacher, Hermann M. Biggs, to the fact that from the very outset of his propaganda he classified tuberculosis with the communicable and not with the contagious diseases. One must first overcome the fear of the disease in order to combat it successfully. It is a good thing to tell a lay audience that probably every one of them, or at least nine-tenths of them, have or have had tuberculosis at one time or another in their lives, and that we are not at all certain that a slight attack of tuberculosis does not confer upon us a certain immunity to future attacks. Explain furthermore that when we are in good health, thanks to the bactericidal quality of the Schneiderian membrane in the nose, the upward waving sciliae in the upper respiratory tract. the phagocitic power of the antibodies in the blood, and the bacteria-killing power of the gastric secretions, we have natural factors of defense against tuberculosis. Otherwise, probably everyone of us would be ill with the disease. Then emphasize in as strong language as you can possibly put it that the honest. conscientious consumptive, who takes care to avoid infecting others by his sputum or saliva, is not a danger to his fellow men and is as safe to associate with as anybody else.

To explain to a lay audience the difference between a contagious and a communicable disease take smallpox as an example.

Digitized by Google

Tell them that no matter how clean and conscientious a smallpox patient may be, they should not go near him or touch him unless they have been vaccinated and revaccinated and they should stay away from the smallpox hospital in general. On the other hand, say to your audience "You may safely touch and shake hands with the conscientious consumptive and even kiss him on the forehead, if you must kiss him, and nothing will happen to you," and then tell them that the well-equipped and well-conducted tuberculosis hospital or sanatorium is the safest place not to catch consumption.

Never fail in your popular tuberculosis talks to lay emphasis on the value of early diagnosis and impress upon your hearers the fact that an annual or semiannual examination of their chests by their family physician is one of the safest and from every point of view most profitable investment for retaining or gaining health they could possibly make. Since you counsel these people to be examined by their own physicians they will see the altruism in your giving this valuable advice.

In reference to the tuberculosis institutions, hospital, or sanatorium, you can also conscientiously say that no physician, no nurse, no visitor, or healthy inmate ever contracted tuberculosis there because of the careful training of the patients and the splendid hygiene in vogue in such institutions. This also should be told to those who object on sentimental or sanitary grounds to the establishment of tuberculosis institutions in their neighborhood. The mortality from tuberculosis among the inhabitants of villages surrounding sanatoria invariably decreases after the establishment of such institutions. To those who object on account of depreciation of real estate value, prove to them by existing statistics, which are available to all, that real estate has improved in the vicinity of institutions for the tuberculous and you will very quickly win over to your side the real estate owner and the real estate dealer.

In your talk to villagers and farmers, and particularly to the women, teach the value of fresh air of which they have so much in the country and of which they make so little use; tell them that the fear of night air is a nightmare for it is just as good as day air. Teach the children and the adults the art of deep

Digitized by Google

breathing; teach your audience all about proper food, regular habits and the danger of intemperance, since alcoholism is a strong predisposing factor to tuberculosis. Insist upon the enforcement of antispitting laws; have your people do away with the roller towel at home, in hotels, or other public or private wash rooms. In my travels through the State I have found a goodly number of hotels in which the roller towel and the common drinking cup seem to be still permanent fixtures, and badly kept spittoons the usual ornament of the lobbies, and public assembly rooms. Encourage outdoor sleeping which can be carried out so much more easily in smaller communities than in larger ones. Stop the chiming of bells and the striking of the town clock between the hours of 9 P. M. and 7 A. M., and stop other unnecessary and distressing street noises; they are as bad for the nerves of the indoor as the outdoor sleeper and it is as bad for the nontuberculous as for the tuberculous to be kept awake at night. Except in small villages, I don't see any earthly reason why the rooster nuisance could not also be done away with as has been done in New York city where we recently passed a regulation, which will go into effect on November 1. This resolution will not permit residents of the Greater City of New York to keep roosters; it will also prohibit persons from raising chickens in their back yards where there is another residence or public institution within seventy-five feet of the poultry enclosure.

Improve the hygiene of your rural schools. In our larger cities we erect the most beautiful buildings for our school children; in some villages and small towns anything from an old barn to the old fashioned red brick building with low ceiling, with little or no ventilation, and bad lighting, has to do. Remodel these schools into open air schools, or build new ones in which you will have plenty of open air classes. I have said before, and am willing to say again that in my humble opinion open air schools at least for primary grades must become the rule and indoor classes the exception if we wish to prevent and combat tuberculosis in childhood.

You should even concern yourself with the hygiene of the churches. They should be properly ventilated and frequently cleaned. In Protestant churches advocate the use of individual

Digitized by Google

communion cups and in Catholic churches see to it that crosses and other articles of adoration, often kissed by the devout, are frequently disinfected.

Give antituberculosis talks to ministers and teachers or directly to the children; distribute popular medical literature in schools for the children to take home; make fresh air apostles of these little ones and you will reach the old folks at home and thus combat the tendency to tuberculosis in the adults and the young; enforce your laws against bovine tuberculosis, for bear in mind that ten per cent. of the tuberculosis in childhood is due to the bovine type of the disease. Allow no individual with tuberculosis to be employed in a dairy or in the handling of milk in stores.

You will of course see to it that all suspected sputum sent to you is carefully examined, but tell your physicians that often several specimens are necessary in order to find the tuberculosis germ, and last but not least, repeat to them as often as you can the maxim that while the presence of tubercle bacilli in the pulmonary secretion of the individual is absolute proof of the existence of the disease, the absence of the germ does by no means prove that there is no tuberculosis. In the earlier stages of the pulmonary type of this disease the germs are found but rarely because there is little disintegration of pulmonary tissue, and yet it is in this early stage that we can most hope for complete recovery. It is therefore of vast importance that every community should have physicians who are experts in the physical diagnosis of the disease in its earliest stages, and the health officer of a community should be particularly qualified to aid his fellow physicians in the early discovery of tuberculosis.

See to it that every case of open tuberculosis receives hospital or sanatorium care or at least gets his sanatorium treatment under intelligent guidance at home. There should be no uncared for tuberculous individual in any community which has an efficient health officer and an intelligent municipal or county government. Make your sanatorium a center of education for physicians and laymen; make your hospitals for advanced cases attractive so that those who ought to enter will enter willingly and will be glad to be there because they will receive better treatment than they could at home; if the institution has cheerful and attractive features they will miss the home less.

Digitized by Google

The consumptive is the ideal victim of the quack, charlatan, and vendor of patent medicines, and this is particularly true of the consumptives who live in rural communities where often the local papers derive their greatest income from advertising nostrums and sure cures for consumption and other diseases. Have a health publicity column in your local paper to enlighten the public. If necessary, have the Department pay for this to compensate the poor editor for his loss of quack advertisements. Tell your lay audience that there is no sure cure for consumption; that good air, rest, and good food under careful medical supervision, and the scientific administration of medicine to relieve distressing symptoms are up to this date our only means of curing tuberculosis, and that every advertisement of a sure consumption cure cloaks a swindle.

In all your talks to laymen try to imbue them with your own enthusiasm and devotion to the antituberculosis cause. Tell your hearers that tuberculosis is not merely a medical disease but that it has a very large social aspect. Bad housing, overcrowding, dangerous congestion, and even underfeeding exist also not only in our large cities but also in smaller communities. Show your wealthy and influential fellow citizens what great good they can accomplish by becoming interested in the amelioration of such conditions as are conducive to the spread of tuberculosis. They will themselves benefit in the end from a clean and healthful community. Personal service to the consumptive poor and kind, generous, and considerate actions towards those afflicted with tuberculosis, rich and poor alike, will create a better and more helpful feeling throughout the community.

It is essential, in order to prevent and cure the disease, that the laymen and physicians of the community, whether large or small, should forget their little social, political, or religious differences and work hand in hand for the common good. Then and then only can you hope to come near the solution of the tuberculosis problem in your midst.

DISCUSSION

DR. WILLIAMS — There are several things which Dr. Knopf touched upon in his masterly address to you this morning that are of very great importance to you, and to each and every one of us.

Digitized by Google

Dr. Knopf made a suggestion which has been studied very closely by the Department — the question of full-time health officers. I wish each and every one of you to consider how it is possible for a health officer in his own community to serve full time at adequate compensation, and to have the village trustees or the town board vote for it. We have to consider some possible way in the future of allying a certain number of health districts and the villages within a town must be united, and that perhaps several towns may be united, so that you men can get a salary that will enable you to give a certain amount of time to the work. In some communities the amount of money in it for the health officer is not enough for him to take any active interest in the work. There is just one note of warning I would like to make to you because I noticed that you applauded at a certain time. And that is about the use of the stethoscope. I have not lived quite as long as Dr. Knopf, and I have not had the experience in examining patients with tuberculosis that he has had, nothing like as much. But I have had the opportunity of examining a great many patients. And my feeling is, and it is the feeling of a great many physicians, that the ear naked is the best instrument to listen to breathing, and that the stethoscope is the best instrument to listen for râles. You cannot hear satisfactorily a râle above the clavicle with your naked ear unless you have a very curiously shaped ear. I want to urge you to practice listening with the stethoscope at the apex in quite breathing and in forced breathing. And above all other things that you do in your physical examination of a tuberculosis patient, look out for râles, get the patient to cough and listen for râles after coughing.

I know that Dr. Knopf would have given that to you if he had not been pressed for time, and I want to urge you to consider it carefully. He impressed upon you the time he took to thoroughly examine a patient — a thorough examination takes an hour fully, and if anything more. And I want to urge upon you to examine the patients thoroughly and to follow out in minute detail every one of the points indicated by Dr. Knopf.

DR. HORACE J. HOWK, Superintendent, Metropolitan Insurance Company Sanatorium — I would like to add first one word to what Doctor Williams has said concerning cough as a means of eliciting rales, and that is to suggest that you have your patient cough at the end of expiration and follow immediately with a deep inspiration. Showers of rales can often be heard when none were distinguishable before. It may be suggested that the physician should protect himself during an examination by furnishing the patient with a square of cheese cloth, the size of a handkerchief, with which the patient covers his mouth. Another simple way is to tie the cheese cloth around the head of the patient so that it covers the mouth.

Doctor Knopf has given us an excellent paper and clinic, and I am certain that you will carry away many thoughts that will bear fruit later on. He has spoken at various points of the educational side of the tuberculosis movement, and I would add a word of emphasis to this if possible for it can be truly said that whatever progress has been made in the past ten years has been accomplished through the education of the public to the danger of

Digitized by Google

uncared for tuberculosis, and the curability of the disease in the early stages. But we are far from having done all that we can and should, particularly with respect to the recognition of tuberculosis when it is in a curable stage.

Considering for a moment the individual patient as he comes to us in the office — I would reemphasize the importance of a carefully taken history. It need not be long or voluminous. All the information needed can be placed on a four by five card and filed for reference. Leading questions should be avoided. Such a question as "when did you first notice that you did not feel perfectly well?" will usually bring out a fund of information concerning the time when symptoms first became noticeable and the nature of the symptoms. Using this as a starting point in tracing up the present illness one can generally work backward over a period of several years, sometimes as many as 12 or 15 in advanced cases, to the time when symptoms did actually begin to be noticeable. In taking a history particular heed should be given to repeated "colds," attacks of grippe, persistent indigestion, so-called malaria, and other conditions which of themselves seem unimportant but which often constitute the only recognizable symptoms in the early stages of tuberculosis.

Dr. Knopf has spoken of the use of tuberculin, but I would add a word concerning the method of its use. Tuberculin need rarely be used after a careful history is taken, an accurate record of the temperature and pulse made over a period of three days at four-hour intervals, and a painstaking examination made, but if after doing these things there is still doubt about the presence of tuberculosis, the patient should be kept at rest for two days and a two-hour temperature taken again to make certain that there is no rise in temperature which might be confused with a reaction. I believe that the best tuberculin to be used is Koch's Old Tuberculin and one milligram should be given subcutaneously as the initial dose. It is better to give it late in the afternoon so that the reaction will take place in the daytime. The temperature should be continued throughout the two subsequent days, and if there is no rise in temperature a second dose of three milligrams can be administered at the end of seventy-two hours. If tuberculosis is present a reaction will usually follow one of

Digitized by Google

these injections. Another advantage in giving tuberculin aside from the reaction as manifested by fever and malaise lies in the fact that physical signs are demonstrable at the height of reaction, at the site of the lesions which were not apparent previous to the reaction. It is, therefore, always advisable to make a careful examination when the reaction is at its height. Very often the administration of tuberculin can be avoided if a physician will take the trouble to examine his patient early in the morning before the patient has had his morning cough. Signs of moisture can often be demonstrated at this time which will have disappeared after the patient has performed his "pulmonary toilet."

We have recently had an experience at the Sanatorium which may be of help to you in the various communities in which you are engaged and I would like to relate it with this in view. The Metropolitan Life Insurance Company has a force of 16,000 employes; 4,000 of these people work at the home office in New York City, while 12,000 are scattered throughout the United States and Canada, as superintendents, agents, clerks, etc. This population might justly be compared to a normal population that you would find in any one of the counties in the State. We have determined to find if we can every case of tuberculosis existing in this population of 16,000, and we have somewhat the same problem that you in your respective counties have. We desired, of course, to get hold of these cases while they were in the early stages of tuberculosis, knowing, as we do, that 75 or 80 per cent. of incipient cases can be restored to working efficiency, whereas only a small percentage of advanced cases can ever get well or remain well.

We have throughout this country and Canada about 500 superintendents who have charge of the agents and clerks. We first corresponded with the superintendents, urging them to inspect their force carefully and notify us of any employes who seemed to be below par. As soon as we heard of these subnormal employes we had them examined, and if tuberculosis could be demonstrated, brought to the Sanatorium. This method was quite fruitful and we had brought to the Sanatorium a large number of cases that were a direct result of this investigation. During the past summer we have invited the superintendents from

Digitized by Google

five territories in the eastern part of the United States and Canada to come to the Sanatorium and spend a day. I have at each of these visits taken the men on a tour of inspection of the Sanatorium during the morning, pointing out to them the various features of the buildings which were designed especially for the care of tuberculous patients and showing them why a tuberculosis sanatorium was a perfectly safe place for well people as well as invalids. After luncheon I have talked to them about the recognition of tuberculosis in the early stages and told them what a layman could do to help find the suspicious case and bring him to the attention of the examining physician. I have called particular attention to persistent indigestion, hoarseness, lassitude and inability to do work with customary ease.

As a result of these visits of the superintendents we have had upon their return home almost immediate inquiries concerning the health of various men and women employed by them. These cases have all been investigated, examined, and in some cases examined repeatedly until we were thoroughly satisfied as to the presence or absence of tuberculosis. The percentage of early cases admitted to the Sanatorium has increased decidedly as a consequence of having the superintendents come and see the Sanatorium at first hand.

The point I wish to emphasize in connection with this is that you have the same possibility of education in the various counties of this State in which sanatoria have been established and I honestly believe that if you will bring your county residents to the Sanatorium and familiarize them thoroughly with the methods of treatment and show them that a sanatorium is not a pest house, and that tuberculosis can be cured if taken early, you will begin to get splendid and almost immediate results.

DR. WILLIAMS — The Public Health Law requires the State Department of Health to make annual inspections of the county tuberculosis hospitals. That work has been begun by one of our sanitary supervisors, and I will call on Dr. Eichel to speak briefly to us on the work he has done.

DR. OTTO R. EICHEL, Sanitary Supervisor, State Department of Health — In going about the State and visiting the county tuberculosis hospitals, I have been impressed, quite naturally, with several features of their work. I will mention them very

Digitized by Google

briefly. First, it appears to me that the local health officers can help immensely by paying special attention to the registration of cases of tuberculosis. There are rural sections from which the county tuberculosis hospitals must derive many of their cases in which there were not as many registered as one would expect. And it seems to me that the local health officers by simplifying the methods, and facilitating them, for reporting cases, can help considerably. Secondly, the profession as a whole, it seems, should coöperate fully with the county tuberculosis hospital regardless of what their personal opinion may be as to its adequacy for the situation. They ought to hold it forward as an ideal, and as a means of segregation of their cases, and give it their heartiest and fullest support. And they can help by endeavoring to make as early diagnosis as possible in any suspected case, and urging that the case be taken care of in a hospital — Ray Brook or other institution for incipient cases, or go to their own county hospital. But by all means have segregation of the advanced cases.

DR. WILLIAMS — It has become a matter of common knowledge among those of us who followed the campaign throughout the State against tuberculosis, to realize and fully understand that the extent of tuberculosis in the rural communities is almost as great as it is among the cities. The State has been extremely fortunate in having as a distinguished leader in the fight against tuberculosis, the State Charities Aid Association of New York City. One of their Secretaries is here this morning, Mr. Nelbach, who will tell you a little about the Extent of Tuberculosis in Rural Districts.

MR. GEORGE J. NELBACH, Assistant Secretary of the State Charities Aid Association — Talking about consumption in the country recalls to my mind very forcibly a meeting that was held in Albany about five or six years ago. Up to that time our combined forces (the State Health Department and the State Charities Aid Association) had been giving most of our attention to consumption in the cities. At that meeting, ex-Speaker of the Assembly Wadsworth, a gentleman from Livingston county, a resident of a country district, directed our attention to this problem in rural New York. He said "Please don't forget us. Look into this problem, see what we have in our rural districts." That prompted the State Department of Health to compile some figures which justified the belief that there were in New York State in round numbers, 15,000 cases of tuberculosis. That

Digitized by Google

greatly surprised us all. We sent the Tuberculosis exhibits to the county fairs. The astonishing prevalence of that disease in the country led the State Charities Aid Association in drafting the Tuberculosis Hospital Law, to place the responsibility for hospital provision upon the county officials and not merely upon the cities, because if the responsibility was put upon the cities the country would be unprovided for.

Many of you have met us going about the country, asking the supervisors to make provision for our consumptive cases, but as Dr. Knopf has pointed out, the people in the country say that talk is very, very cheap. And we have knocked time and again upon the doors of our county legislatures — the boards of supervisors — asking for adequate provision for the tuberculous, and they would not listen to what we had to say. They wanted to find out the facts at first hand. Now all the facts that have been found out have borne out what we have been saying. In Lewis county, where the board of supervisors employed a nurse, they found there in three months in that little county of only 24,000 population, some 99 cases of consumption. St. Lawrence county in nine months found 222 positively diagnosed cases of tuberculosis. And so on down the list, Cattaraugus county found 250; Chautauqua 184, outside of Jamestown and Dunkirk. And then during last June and July our organization sent to a little town in Monroe county, called Webster, a public health nurse as the prize for the grange in that locality selling the most Christmas seals last holiday season. That nurse in a locality of not over 4,000 population, found 22 open cases of tuberculosis.

So we have come to believe that though the country has fine air, fine water and splendid natural advantages, it has a good deal of tuberculosis, perhaps more in proportion to the population than some of our cities. The talk this morning has been to a great extent upon the need for diagnosis. The need in the country for early diagnosis is a crying one. Frequently the doctor can not get the expert assistance that he desires so badly. That very need led the Department and our Association this last session of the Legislature, to draft an amendment to the County Law which gives the County Hospital Board of Managers the authority to send out their superintendent, the medical

Digitized by Google

superintendent, to any point in the county to make a diagnosis, when requested by a doctor, or by a nurse, or teacher, or an employer or any lay person. That constitutes in effect, in every county having a hospital, a traveling tuberculosis clinic. And I hope the men here who live in those counties enjoying the benefits of tuberculosis hospitals, will avail themselves of this expert advice and assistance.

And finally one more word. I have been listening here for the last two days to all the things you are expected to do, and I have heard about how much money you get for doing these things. The thought came to my mind that we will never have very adequate health administration in this State while we have our local health unit so small as the average town or a village. The towns and villages, to my mind, can not afford to pay a full-time health officer. The idea occurred to me a few moments ago, that that very fact showed the need for that *alter ego* to the health officer, namely the public health nurse. For $900 or $1,000 a year, a locality can get a trained woman, an efficient assistant to the health officer, to do all these important things that a lay person or a trained nurse can do in combating disease. I hope in all similar conferences we can give more time and attention in our program to the need of these nurses. Wherever a nurse has been employed the health officer says it is the very best step that has been taken. Down in Long Island, one of the prominent health officers here at this Conference was prevailed upon to employ a nurse, and he now says she is the greatest aid in his health work that he ever had.

DR. WILLIAMS — It seems to me far wiser for us to ask Dr. Knopf now to close the discussion and go on with the program and give just as much time as we can to the discussion of other topics on the program this morning. I will ask Dr. Knopf to close the discussion.

DR. KNOPF — I want to defend myself. I have a stethoscope, and my ear is not bell shaped any more than that of our distinguished Commissioner. When I have a so-called snuff-box, a deep apex, of course I have my stethoscope. I approve of what he says, but use your ear first and then your stethoscope as often and as much as you please. But do not neglect your ear. I haven't any time to go over with you a careful physical diagnosis.

Digitized by Google

In all it takes three-quarters of an hour, and my private secretary takes a quarter of an hour to take the history. I examine the conformation of the chest. Thus I get the exact conformation of the chest and get the anterior and posterior by putting on piece of paper and drawing a line. That was one of the things I forgot to tell you because I didn't have time. Measure the chest, although you need not pay very much attention to it, but with an examination it is of some value to get the chest expansion recorded. Then as the Commissioner very well said, I always direct my patient to cough, even the advanced cases, for as you all know you have a sign, which is very interesting, which you get only through coughing. For example, ask the patient to cough, his cavity expels air during the cough, and after that you will hear a click, the cavity is almost empty and you get a suction sound, the after cough sound.

All this I could not do in fifteen minutes, when it takes three-quarters of an hour to examine one patient. And I will state about the history. My good friend, Dr. Howk, has only called my attention to the history. I have forty or fifty blanks here for history of the cases. I will be very glad to send any one a blank if he will write me, I have not enough to go around. They will show how careful I like to be in the examination.

Remember to examine the throat of your patient, that is one of the most important things to it. In early cases you often find mucous membrane, apparently not just due to an obstruction in the nose. And never forget to examine the nose. You see there are many things I had to forget. Also see if the patient tires easily. Ask him, for I know that sometimes a patient becomes indifferent to pleasure and work. They have a dislike for their pleasure and dislike for work. That is a serious symptom that you should take into consideration, and so it goes on. I will be very glad to give you these, and bear in mind a careful history taken of every patient before you examine him is the most important thing of all.

Now I am very glad Dr. Howk called your attention to the morning cough, before the patient makes a toilet of his lungs, and also, gentlemen, about what Mr. Nelbach remarked about the hospitals. I have always had a prejudice against the

Digitized by Google

word hospital for consumption. Sanatorium is a hopeful word. Our consumptive patients are already so educated that if they are sent to a sanatorium they get well, if they are sent to a hospital they think they have got to die. Now that is a fact. I have suggested to the Association which Mr. Nelbach represented, that they should replace that name and make it at least hyphenated and call it hospital-sanatorium, because it is a little happier, a little cheerier.

My last word is — if you want to have your patient, as Mr. Nelbach indicated, have every tuberculosis patient go into a hospital or hospital-sanatorium if quite sick, make that sanatorium attractive, make it nice, not a prison but more homelike, and the patient will come. He will more gladly leave his home if he is well taken care of, a real place to live in and if necessary pleasantly to die in. Make it attractive and pleasant, treat them there with the utmost kindness, as much as you would a hopeful case.

DR. WILLIAMS — I am sure that I voice the sentiments of all of you when I thank in your behalf Dr. Knopf for his demonstration this morning.

Digitized by Google

City Health Officers' Session — Wednesday, September 16, 1914

This session was held in Hotel Adelphi, at 11 A. M., Prof. C.-E. A. Winslow, presiding.

THE HEALTH BUDGET AND ITS APPORTIONMENT

PROF. C.-E. A. WINSLOW
Director, Division of Publicity and Education

The first time I ever had the pleasure of meeting Dr. Duryee was at the first Conference of Mayors at Schenectady, and at that time he made a very striking address in which he compared the appropriations for health and for police and for fire protection and showed how meager are the appropriations for health work as compared with those made for these other municipal functions. Now I think there is a good reason for that, and I think the reason is that in the past the police departments have arrested people and the fire departments have put out fires while the health departments have not saved lives. Ten years ago, and back of that, most of our work was cleaning up back yards and attending to complaints and fumigating, and if we did obtain definite, tangible results in life saving we could not show it. Now today that is no longer true. Sanitary science has become so much more precise and definite that we can truly say that public health is purchasable. We can lay down a definite program, such as the program that Dr. Biggs has outlined — of the saving of 5,000 lives a year during the next five years. In order, however, to get these results it is very necessary to concentrate our efforts and to spend the funds we now have where they will produce the maximum of results. What seems to me perhaps the main issue before us today is the adjustment of our resources so that we can get the quickest and biggest results, for just as soon as you can get results, such as the New York City Department of Health has obtained in connection with its infant welfare work, you can get more money. In order to do that the first thing is to know how much the various health activities cost. As an illustration of what I think we must all strive to

Digitized by Google

do, I reproduce here a table (p. 640) prepared by the New York City Department of Health and published in their Weekly Bulletin in which the expenditures of the Department have been divided according to what seems to me an excellent plan, and in which under certain items the unit cost has been figured. You will notice, for example, that under the second heading "The Keeping of Records" it cost them about 3 cents to tabulate each certificate and it costs them about 25 cents to make each search; that under the next general division of "Child Hygiene" each inspection of an institution costs $1.37 the inspection of each school child costs 38 cents, each operation and treatment at the school children's clinic costs 39 cents, each examination and treatment in the infant's milk station costs a little less than 14 cents, etc. Now I think that this is one of the steps we have to take as soon as we can — to analyze our budgets and determine just how much is spent in each field, and so far as possible what the unit cost is, and I think this New York City system is worthy of careful consideration by you to see how far it is possible for you to adopt it. An inspection of this table brings out some quite striking things. You will notice that each general sanitary inspection costs $1.18, whereas an examination and treatment in the Infants' Welfare Station costs 14 cents. That is, you can make eight examinations and treatments of infants for one sanitary inspection. Which is worth more for public health? The determination that Mrs. Jones' yard is grown up with weeds, or the examination of eight children at the Infant Welfare Station?

It is rather significant that the other big item, the other costly thing, is the disinfection — over one dollar for each disinfection. You can give seven treatments to the children of the Infant Welfare Station for one disinfection. Does not that emphasize the desirability of carrying out the implicit suggestion in the rules for cleansing and disinfection for communicable diseases that we get away from fumigation just as rapidly as we can and do just as few ordinary room disinfections as possible?

The first thing then is to know how much the various things that we do cost, and the second thing is to adjust, so far as possible, the budget so as to spend money on the things that count.

Now I have another table here (p. 639) which is taken from a

Digitized by Google

report that Dr. Biggs and I made some years ago to the City of Minneapolis on the efficiency of the Minneapolis Health Department. In connection with that we took the salary expenditures in the three cities, Minneapolis, Chicago and New York, and classified them as far as we could under the principal natural divisions of health department work. For "Administration" Minneapolis spent $0.014 per capita, Chicago $0.10 and New York $0.039. Of course it is very hard to compare such figures. A great many errors creep in. For instance, the expense for hospitals is not comparable, because in New York City the Health Department has control of some of the large hospitals, while in Minneapolis and Chicago that is not the case, so that particular comparison is meaningless. We must consider very carefully how far these different figures are comparable, and you cannot do this from the Department reports until we have a system that is comparable. These figures were obtained by personal interviews with the officials. According to this chart no school inspection is done in Minneapolis, but school inspection is done in Minneapolis and done very well, though not by the health department. Some of these comparisons are, however, I think, quite striking. Of these three departments, I think on the whole it is quite certain that the New York City Department is the most efficient. Now let us take a few items here which are of particular importance. Everyone knows that communicable diseases is one of the paying activities of the Health Department. You will notice that Minneapolis and Chicago pay from 3 to 4 cents per capita and New York City 5. You see there New York City is emphasizing the important thing more than the other departments. School inspection is another matter of great moment. In Chicago they pay $0.006 per capita under the head of "Infant Mortality" and in New York $0.024, which is not half enough. On the other hand it is interesting to note that when we pass here to items which are not of particular public health importance—"Food Inspection" (other than milk), "Nuisance Inspection" and the "Inspection of Buildings" three items which are none of them capable of yielding definite, tangible results in life-saving, you will see that Chicago spends about three times as much on food inspection, spends the same on nuisance inspection, and fifty

Digitized by Google

per cent. more for the inspection of buildings than New York City. The laboratory at Chicago is inadequate, notably so. New York and Minneapolis (which has an excellent municipal laboratory) spend about twice as much for this purpose. Vital Statistics in New York City is far in the lead. I think such comparisons as those, with proper deductions for local conditions which may vitiate the comparison should be made. I think we need to make such analyses as that now pretty sharply to see whether we are spending our funds to the best advantage and to see that increases are made along the lines that are going to yield results and not along other lines.

The main part of the morning is, I hope, to be taken up with discussion in which every one will take part. I would like in closing to suggest two or three matters which should be kept in view in forming the health budget. In the first place I think it is quite clear that any budget which totals less than 50 cents per capita is altogether inadequate. It should be apportioned in this way: At least 5 cents each for the items of communicable disease, not including hospitals but, for the ordinary routine control of communicable diseases; 5 cents for infant mortality work (that is more than they are spending even in New York City and it is none too much); 5 cents for tuberculosis work; 5 cents for school inspection. These are the four big lines where we can get results and the laboratory and the vital statistics, which are really the basis on which all the other things rest, but which are not so costly, should have at least 2½ cents per capita. I should like to lay that before you as basis for discussion of things that we should work for. Let the rest of the things take care of themselves. Let them be increased if the public demands them, or let them stay as they are but let us work for an increase to that point on those items in the budget which we know will yield definite, tangible results.

Digitized by Google

NEW YORK CITY DEPARTMENT OF HEALTH

Analysis of Expenditures, Year 1913

	Total for year	Number of units	Kind of unit description	Cost per unit
General administration:				
Executive	$147,654 25	.....	.....	.....
Audit and accounts	23,309 25	.....	.....	.....
Purchase and storage of supplies	18,459 95	.....	.....	.....
Sanitary supervision	84,786 64	.....	.....	.....
Medical supervision	9,010 39	.....	.....	.....
Administration of buildings	134,602 39	135,400	Square ft. office space	$0.994
Automobiles	18,211 90	42,615	Miles run	.427
	$436,034 80			
Keeping of records:				
Administration	$7,333 29	.....	.....	.....
Tabulation of vital statistics	7,237 44	256,871	Certificates tabulated	.028
Searching and transcribing records	47,080 09	.....	.....	.....
Book bindery	3,304 65	190,490	Searches made	.247
	$64,955 47			
Child hygiene:				
Administration	$58.075 20	.....	.....	.....
Supervision of midwives	14,270 35	51,527	Inspections	.277
Issuance of employment certificates	16,737 57	42,167	Examinations made and certificates issued	.3969
Inspection of institutions for dependent children	3,275 00	2,396	Inspections	1.366
Inspection of school children	326,610 30	850,285	School children registered	.3835
Clinics for school children	77,425 81	196,674	Operations and treatments	.3935
Infants' milk station — prenatal work	140,787 26	1,024,910	Examination and treatments	.1375
	$637,181 49			
Contagious diseases:				
Administration	$30,694 29	.....	.....	.....
Medical inspection	84,937 11	189,214	Visits by inspectors	.448
Animal inspection	10,658 36	26,494	Visits by inspectors	.402
Disinfection	47,546 12	46,638	Rooms disinfected	1.019
Stable	83,546 51	186,692	Miles	.447
Wagon repair shop	1,450 00	.....	.....	.....
	$258,832 39			
Communicable diseases:				
Administration	$49,042 38	.....	.....	.....
Laboratories	65,383 94	.....	.....	.....
Hospital admission bureau	18,887 20	.....	.....	.....
Supervision of tuberculosis	124,615 43	217,469	Visits to cases	.573
Tuberculosis clinics	80,384 77	110,729	Patients treated	.725
Tuberculosis day camp	28,771 41	50,306	Patient days	.571
	$367,085 13			
Inspection service:				
General sanitary inspection	$207,625 08	175,748	Inspections	1.181
Food inspection	83,003 91	364,602	Inspections	.227
Milk inspection — city	56,285 14	137,386	Inspections	.409
Milk inspection — country	56,021 04	29,211	Inspections	.571
	$402,935 17			
Laboratory service:				
Administration	$136,616 65	.....	.....	.....
Chemical laboratory	16,760 19	15,142	Analyses	1.106
Research and vaccine laboratory	25,882 09	.....	.....	.....
Drug laboratory	8,490 87	.....	.....	.....
	$186,749 80			

Digitized by Google

	Total for year	Number of units	Kind of unit description	Cost per unit
Hospital service:				
Willard Parker	$221,773 04	90,560	Patient days	2.448
Riverside	292,081 54	127,774	Patient days	2.286
Kingston Avenue	192,064 31	74,105	Patient days	2.591
Tuberculosis Sanatorium, Otisville, N. Y.	278,589 82	185,745	Patient days	1.499
	$984,508 71			
Total expense	$3,338,282 96			
Total of appropriations	3,366,219 50			

Classified Per Capita Health Expenditures for Salaries, 1911

	Minneapolis	Chicago	New York
Administration	$0.014	$0.010	$0.039
Communicable diseases	.032	.038	.051
Hospitals	.009	.015	.080
School inspection	.....	.037	.052
Tuberculosis	.....	.....	.064
Infant mortality	.....	.006	.024
Milk inspection	.008	.010	.019
Food inspection	.009	.031	.010
Nuisance inspection	.020	.035	.035
Inspection of buildings	.006	.017	.011
Laboratory	.022	.011	.025
Vital statistics	.003	.005	.013

The discussion will be opened by Dr. C. C. Duryee, Sanitary Supervisor, Schenectady, N. Y.

DISCUSSION

CHARLES C. DURYEE, M. D., Sanitary Supervisor — That there has been a marked change in the administration of health departments in cities within the decade of which the Professor has spoken I think we will all agree, but this meeting today and this paper today mark a point of progress from which we shall date in the future much more efficient work. It is simply as I see it the application of business principles to the health budget and to health administration. The great fact has been that every health officer until within a few years, and many now, act on their own initiative without any well-defined plan, and I think also that the funds have been insufficient. We ourselves are much to blame, and Prof. Winslow has pointed out

Digitized by Google

a method of getting facts and figures that we may present to the Boards of Estimate and Apportionment and to our Common Councils so as to secure sufficient appropriations.

I have prepared a little paper on the general subject of budgets which has only the merit of being brief, and I will read what I have to say. Regarding it essential that we should exclude from our budgets those items that are not directly connected with real efficient health work, as has already been pointed out, and I am going to instance in this little paper some few facts that I have gathered and shall leave much to your imagination, or rather to your actual knowledge of items in your individual budgets that will be suggested by the few remarks that I have to make.

The rapid growth of preventive medicine has increased the duties and responsibilities of Health Departments so largely, that the preparation of budgets for this Department has become most important, and for the successful carrying out the efforts to conserve human life and promote the public health it is necessary to give more than casual examination of the items in its preparation. New items are constantly made necessary by the progress of public health legislation and the extraordinary growth of preventive medicine. It would appear that the time has come when we should seek to eliminate from public health budgets such items as are, at least, only remotely connected with the Health Department. While it is true that most, and perhaps all, of the activities of municipalities are, in some way, connected with the public health of the city, with the possible exception of the financial department, I think we have reached the point where these items should be placed in the budgets of other departments, so that all items in the health budget may be given to the more important activities of public health work. Moreover, it appears that there is a certain amount of satisfaction and pride taken in the fact that the allowance for public health purposes in certain cities is large, when, as a matter of fact, the budget is largely given over to certain matters, which probably belong to the Department of Public Works or some other department of the city, and really are of interest to the Health Department in only a supervisory capacity. Thus by excluding from the budget some items of which more will be said hereafter, we may increase the financial

Digitized by Google

assistance to be given to the essential and constantly expanding work of promoting public health. Then again, the removal from these budgets, of items which involve the expenditure of large sums of money, the public may ofttimes realize how meager are the appropriations for the important purposes toward which the Health Department is bending its energies. While admitting the close connection of public health to most of the operations of cities, it must be recognized that by elimination of remotely connected activities, we may in a large degree bring about a proper consideration of lines of work that are now not undertaken at all, or are inefficiently performed. For example, there is in the Mohawk Valley a city which, like many others, includes in its budget the removal of ashes and garbage. In its board of health budget the sum of $10,750 is appropriated for this purpose, while the total amount appropriated for the use of the board is $20,250 — over fifty per cent. of its budget being for a purpose really foreign to the purposes of this Department. There can be no doubt that the Health Department should carefully watch over and use every effort to secure the efficient removal of garbage and ashes, but, on the other hand, it would seem that the function itself is purely one for the public works department and there is no reason why the Department of Health should be charged with the expense of the actual removal of this waste of the city, any more than that the expense of running the water department should be placed in the budget of the Department of Health. In both instances, it is the duty of the Health Department to secure the proper and efficient removal of the waste as well as to watch, to warn, and to secure for the city a healthful water supply. The attitude of the health officer in this, should be that of an inspecting and not of an administering officer. Then, taking again the budget of the same city, we see what is found in practically all the other cities; the inclusion of the inspection of plumbing which I think all will agree, preventive medicine has shown to be of little importance to the health of communities, because of the fact that we now know that the older ideas of the transmission of disease by gaseous emanations is unfounded, but that communicable diseases are chiefly transmitted directly or indirectly from person to person. It is also noticeable that in this

Digitized by Google

city the salary of the health officer is but $800, while that of the bacteriologist is but $500, which for a city of its size is meager indeed, and when taken in connection with the fact that the salary of the plumbing inspector is $1,200 a year, reaches almost the domain of absurdities. In passing, I might say, that the present government of the city is seriously contemplating some changes in its budgetary deficiencies.

It is astonishing in examining the budgets of the cities of New York State, to find how many items of expense are placed in health budgets which are not directly concerned in public health administration. For instance, in one of the smaller cities of the State where health matters have been well administered for some years, I find that the item of the salary of the pound master was included in the Health Department estimate of yearly expenses.

The budget of the same city not only includes that of the pound master at a salary of $957 but also the addition of $12,512, for garbage collection and disposal, out of a total of $20,024.97, leaving a balance of $6,555.97, and taking out the salaries of plumbing inspector and of examining board of plumbers which amounts to $1,217.50, leaves an actual balance of $4,238.47 for health purposes. This latter amount I wish to state, is most progressively and economically expended, but entirely insufficient for a city of its size.

The relation of this work to public health is not at all problematical and should be, of course, relegated to the proper department, as well as others which the close scrutiny of the various budgets indicate. The difficulty in securing proper financial consideration for Health Departments can be largely met by excluding these and similar items.

As we continue to examine the Health Departments closely, we discover that in a few cities no budgets at all are prepared. In some instances, allowances are made for salaries only, and it becomes necessary to apply to the authorities to secure the needed money for some of the essential activities of the Department. In one of these cities I notice that but nineteen dollars was used to combat tuberculosis, certainly a very insufficient sum, and it is obvious that this method of applying from time to time to the general fund for the support of the Health Department is not

Digitized by Google

only unwise, but also embarrasses the work of the health officer. To return again to the city which includes the salary of the pound master in its budget, it is interesting also to note that but $95.07 was expended for dairy inspection and but $117.66 for the tuberculosis dispensary. Of course there may be some private sources of income for use in the latter work, but it is quite improbable that any such source of funds could be found for dairy inspection. In another city, whose budget contains few, if any items foreign to the Health Department, with the possible exception of the plumbing inspector, we find no provision made for child welfare or for tuberculosis except $500 for supplies for tuberculosis patients. The salaries of this budget are well balanced and really are a model for the second class cities of the State, but the budget would be measurably improved if items were added for activities which obviously no city of its size should be without.

The writer has not undertaken to review the budgets of all the cities of the State nor has he attempted to give all the items that should be discarded, but it is interesting to note in this connection that the Department of Health of New York City is considering the elimination of the inspection of bakeries from its budget. Unlike most of the cities of the State where this inspection is under the control of the Department of Labor, I believe that in New York City such supervision has always been placed in the Department of Health. Among some of the reasons suggested for the elimination of the inspection of bakeries, is, that the bread itself is sterilized in the baking and little or no risk of contamination occurs when properly wrapped. All health officers of cities will, I think, agree with me that there are other items in the budgets of cities that may be safely and properly eliminated.

Another method by which proper financial support can be secured for the different health problems in cities, is by securing the cooperation of the people in the community, and the health officer can generally secure sufficient assistance in every community from both men and women, who are interested in public affairs and who, by the creation of public sentiment, will warrant the authorities in providing more liberally for the promotion of public health. The inertia among the people in relation to public health is rapidly passing away and the interest taken in social

Digitized by Google

welfare and public health service, is both widespread and insistent among our citizens.

Still another potent method of securing increased financial assistance in health work, was embodied in a suggestion of Commissioner Biggs, for the formation of Public Health Committees of the various Civic Improvement Associations, which now exist in many of our cities, or the formation of Public Health Associations, and thus create a public sentiment in favor of larger and better facilities.

In many of our cities there is no Department about which the people are more concerned or at which criticism is more frequently aimed than the Health Department. This fact indicates that the people are interested in the larger development of health work, and presages a closer cooperation between the department and the public.

The people are much inclined to give their confidence to the newer methods, which have grown out of the more recent and accurate study of public health problems. And the city that fails to broaden its health activities by the consideration of these more modern methods for the prevention of the spread of communicable disease by the creation of effective divisions of education, publicity, tuberculosis, child welfare, industrial hygiene and sanitation will fall behind in the race and will ultimately be discredited.

PROF. WINSLOW — The third and last formal paper on this same subject, after which we hope everyone here will join in the discussion, is by Dr. Francis E. Fronczak, Health Commissioner of Buffalo, N. Y.

DR. FRANCIS E. FRONCZAK, Health Commissioner, Buffalo, N. Y.— To say that I am embarrassed in attempting to speak on this subject is stating it very mildly, for, while I expected to discuss the paper, I had likewise expected to know something of its contents beforehand. It, however, failed to fall into my hands, and I note that Professor Winslow has used but a few memoranda which he had jotted down.

In the first place, Professor Winslow says that we have more policemen and more firemen than we have sanitary officers; this is true, but the time is fast approaching when we will have more sanitary officers than policemen. During the past ten years, there has been comparatively little increase in the number of policemen

Digitized by Google

and firemen, while the number of sanitary officers has increased quite materially — in some cases as much as 500 per cent.

And now in reference to the appropriations made for health work in our municipalities, I can but state my experience in the city of Buffalo.

The health commissioner calls a meeting of the chiefs of his various bureaus (of which there are nine, embodying 27 divisions) for the purpose of discussing the needs of the department for the coming fiscal year, and certain sums are agreed upon as being required to economically but adequately maintain the department and enable it to perform its work satisfactorily. The health commissioner submits his recommendations to the Board of Health composed of the mayor, the commissioner of public works and the health commissioner, and the proposed budget is voted upon and fixed at an amount which such board of health believes is in keeping with the requirements. It is then transmitted to the Comptroller who reviews it and makes such cuts as appeal to him — approximating 25 per cent, and this despite the fact that he may have no familiarity with health work or its requirements, notwithstanding he may be perfectly honest in his intentions and exceptionally bright in his own line of work.

From the Comptroller the budget is revised, goes to the board of aldermen which legislative body takes a whack at it and perhaps cuts off 25 per cent more; thence to the board of councilmen who may reduce it 15 per cent or so, and finally to the mayor who reserves the right to still further reduce it which he usually does, notwithstanding he is a member of the board of health. In other words, I may start out with a proposed budget of $1,000 but am very likely to get less than $500 by the time it has run the gamut of the various "butchers".

This system of cutting brings about one result and that is that every municipal department, in order to obtain anywhere near what they require, must ask for an amount greatly in excess. I may say right here, however, that as health commissioner, I have always insisted in submitting an estimate honest in every respect, with the consequence that we face a deficiency year after year and have had to work under that handicap making the department work lack the efficiency which we had planned. This year, the

Digitized by Google

department of health ordinances were amended to provide a certain amount of money for salaries, and yet we are facing a deficiency of about $30,000 for salaries alone, knowing full well that same *must* be paid, and making necessary the issuance of deficiency bonds later in the year.

It is an impossibility to make intelligent or useful comparisons as to cost of maintenance of health departments in the various cities, for the reason that there is no unanimity in respect to what activities come under the health departments' jurisdiction.

Under the jurisdiction of the health department of one city may be included the collection and disposal of garbage, household refuse, etc., collection of dead animals, public bath houses, and many other municipal activities, while in another city, only a part or perhaps none of these may be included; thus we are not in a position to properly compare notes and judge correctly as to the comparative appropriations.

This fact we learn in our communications with other municipalities, and until we can agree on the character of work which should come under health department jurisdiction and supervision and it is so assigned, we cannot arrive at the correct estimate of appropriation for health work; and this subject was most thoroughly discussed two years ago, at the American Medical Association meeting, by Dr. LeGrand Powers, connected with the United States service, in the capacity of chief statistician for finance and municipal statistics, U. S. Bureau of Census, in a paper entitled "Uniform Counts as a Basis for Standard Forms for Reporting Financial and Other Statistics of Health Departments." He, I believe has given us, as health officers, something to consider.

In other words, he has prepared a standard for appropriations for various kinds of work in health departments, and unless municipalities will adopt this or a similar standard, we will be unable to satisfactorily solve the question at issue.

Dr. Powers divides his general appropriation into nine different groups and these are subdivided into about 150 smaller subdivisions.

There are two general subdivisions which come under the heads of "General Administrative Expenses" or "Overhead

Digitized by Google

Charges" in which he puts the salary of health officers, telephones, heat, light, printing of annual report, etc., in one group; then he makes another division in which he includes the functional expenses for activities that directly affect public health, which most health departments already have, and in this class come expenses for vital statistics, expenses for treatment and prevention of communicable diseases, expenses for conservation of child life or child hygiene, and expenses for food inspection; and then he has another division—"Functional Expenses" for activities that ordinarily only indirectly affect public health and under which there are four subdivisions—expenses for sanitation or promotion of cleanliness, which includes collection of garbage, abatement of nuisances of all kinds, smoke nuisance, noise nuisance, etc., etc., expenses for general hospitals and care of sick and injured. Now, in most cities, the hospital expense is not included in the health department expense.

Some of the larger cities, like New York, Chicago and Buffalo, charge only part of the hospital expense to the health department while others maintain their hospitals under a separate and distinct control.

Then comes expense for miscellaneous protection of persons, and probably a final expense for other activities of health departments.

Under these general divisions, he has many subdivisions and, of course, the doctor gets it very fine. In fact, he has arranged it so, just like the International Standard for keeping statistics of deaths; where, formerly the whole subject was lumped together, now it has general subdivisions, such as deaths due to nervous system, to communicable diseases, to diseases of the respiratory tract, to diseases of the gastrointestinal tract, and each one of these subdivisions is numbered, as you all know.

Now the thing is this—if we had a general standard adopted and each subdivision numbered, we would know, in a very short time, just what each of our various communities spends for certain work. We find, also, that in the expenses for various departments there is quite a diversity in salaries paid to the people employed. For instance, we see in the salaries paid to health officers under the recently adopted State law, there is some pretense to classify and standardize salaries.

Digitized by Google

In New York City the health officer receives a salary of $7,500; Buffalo, $5,000; Rochester, $3,000; Albany, $2,100; etc.

Plattsburg, which according to statistics, has a population of 12,000, is said to pay $600, which I believe, however, is a clerical error, for I believe they pay at least $800, like the rest of cities of that size.

Then we find, that notwithstanding certain cities have approximately equal populations, the appropriations vary greatly. The appropriations in the State of New York vary from $3,333,951 for New York City down to $1,286 for the city of Salamanca, and the number of employes in the various departments is from 3,035 in the city of New York down to one in Tonawanda.

It may be interesting to study the per capita tax for health work.

Dr. Evans, I believe, is the one who strongly advocated that there should be appropriated $1 per capita of the population for health work.

The city of Chicago is the only city in the country which pays $1 or more per capita. The city of New York appropriates 62 cents per capita, Buffalo 84 cents, (including the appropriations for the Incipient Tuberculosis Hospital, which is under a special commission) Salamanca, the lowest, 15 cents.

The average salaries of health department employes also vary to a very great extent in different cities of the State, the highest, so far as I am able to learn, being Mt. Vernon, with an average salary of $1,112 per employe, health officer being eliminated, and Canandaigua being the lowest with an average salary of $123. Now these men are doing practically similar work, and the difference between Mt. Vernon's $1,112 and Canandaigua's $123 shows too much of a diversity.

Take the money spent in various bureaus of departments. For instance, the city of New York, which, of course, must be expected to spend a lot of money, spent in 1913, the sum of $531,248 for tuberculosis work, Buffalo spending, at the same time, $154,608, which included the maintenance of two hospitals — one for incipient, the other for advanced cases of tuberculosis; the city of Troy, with a population of over 80,000, has "blown" itself to the amount of $100, and Olean $75, for the entire year

Digitized by Google

for the care of the tubercular. Take the money spent for child hygiene, school inspection, school nurses, dental inspection, etc., the city of New York has spent $531,181. In other words, they have expended within $67 of what was spent in tuberculosis work, while other cities which have spent, say, $40 or $50 for tuberculosis, have lavishly spent as high as $800 for child hygiene. Take food inspection — some of them do spend what I term reasonable amounts, yet you and I do not believe anyone would say that, when Mt. Vernon spends $50 annually for milk inspection, food inspection and everything else in that line, it is doing much in supervising food products. I do not believe Mt. Vernon is spending enough for that particular work, unless it is a specially well-conducted place and the pure food laws are so carried out that they need no food inspection which I have my doubts about.

Let us regard the laboratory expense. Now, no modern, up-to-date city even pretends that they can run a city of 15,000 and upwards without a laboratory, a bacteriologist and a chemist, yet we learn of cities of such size spending as much as $50 annually for laboratory. So with vital statistics, cities of the size of Gloversville paying $200 annually for maintaining records of births, deaths, marriages, communicable diseases and everything pertaining to vital statistics; Olean paying $40 annually for like service; Saratoga Springs spends $970 which I believe is a fair average.

Now you can see that there is so great a variety of expenses, and division of appropriation that there should be some system of standardized classification of expense for various departments, bureaus and divisions. I believe there is no city in New York State, outside of New York and Buffalo, which spends enough money for publicity. I am a firm believer in publicity, and you can get more for $100 spent in publicity of health work and in notifying the public what is expected of them, in teaching physicians what they should do and how they can best cooperate with health departments, than for $100 spent in any other department or division, and yet, outside the cities of New York and Buffalo, none of our cities spend any money, which amounts to anything, for publicity. I believe that in every department

Digitized by Google

of health a certain amount of money should be set aside for publicity. I believe it my duty to state just what share of the general appropriation should be spent for the various bureaus of our department. There is no doubt that in the various communities more must be spent for one thing and less for another, but a certain amount of money should be apportioned for the work of each particular bureau or division in the department, and if that money is wisely expended in the proper bureau or division, you, no doubt, will be able to secure a greater appropriation when you appear before your officers who decide the amount of appropriation for you, because the subdivisions of the various bureaus and their work will be so efficient, and the amount of money so little in comparison, that the fiscal officers will hesitate to deny the small sum required and asked for each particular subdivision and bureau. If you make a demand, say, for $10,000 for health department work, it perhaps will look like a big sum and will invite considerable cutting down, but subdivide that $10,000, apportioning a certain amount to each of your various bureaus and divisions for which it is to be expended, and I feel assured that little difficulty will be experienced in obtaining the full appropriation required, and that such appropriation can thus be increased year by year, as the amounts of increases appear so small as compared with the bulk sum.

In other words, do not ask for a big sum of money for the health department, but subdivide it as much as you can; say what you do with the money; state how it is to be spent, and, in the long run, you will be able to obtain a greater amount and accomplish more efficient work for your community.

The result has been, in Buffalo, that where formerly we were able to get less than 20 cents per capita, last year we obtained an appropriation of about 84 cents per capita, the amount appropriated for the Incipient Tuberculosis Hospital at Perrysburg being included, but this was only accomplished by splitting the total amount, which we knew we needed, into smaller amounts and specifying for just what particular branch of work each amount was to be used.

These figures all pertain to the last fiscal year and show the amounts expended, not appropriated, as given me by the respective health officers.

Digitized by Google

CITIES IN NEW YORK STATE	Population	Total appropriation	Health officer salary	Total other salaries	Number on salary list	Average salary	Per capita for health work
New York	5,372,983	$3,333,951	$7,500	$2,330,487	3,035	$767	.62
Buffalo	454,112	382,427	5,000	286,935	302	950	.84
Rochester	235,000	82,100	3,000	46,362	47	986	.35
Albany	110,000	29,635	2,100	19,585	24	816	.27
Binghamton	52,300	16,526	1,200	7,712	12	642	.31
Syracuse	150,000	80,011	2,200	51,338	50	1,026	.53
Troy	80,000	14,704	2,500	10,208	16	638	.18
Gloversville	22,000	9,000	800	5,700	6	950	.41
Jamestown	35,000	20,000	1,200	3,550	5	710	.57
Mt. Vernon	35,000	8,965	.....	8,900	8	1,112	.25
Kingston	26,493	4,350	1,200	1,900	3	633	.17
Oswego	25,000	.....	1,500	2,040	4	510	.....
Watertown	30,000	8,515	800	2,765	4	691	.28
Canandaigua	7,500	1,500	400	615	5	123	.20
Corning	15,000	.....	800	2,000	3	666	.....
Cortland	11,500	5,000	1,000	2,100	3	700	.45½
Fulton	12,000	.....	800	2,700	7	385	.....
Glens Falls	17,000	4,150	800	3,150	3	1,050	.24
Hornell	14,566	3,787	666	2,293	3	764	.26
Ithaca	15,331	5,600	1,000	2,520	5	520	.37
Johnstown	10,700	3,500	800	3,000	5	600	.32
Little Falls	12,000	.....	900	1,420	3	473	.....
Lockport	19,581	3,500	800	900	2	450	.18
Olean	17,000	3,750	800	1,560	4	390	.22
Plattsburg	12,000	.....	600	840	5	165	.....
Salamanca	8,500	1,286	800	.....	.....	.....	.15
Saratoga Springs	12,693	5,500	800	2,700	6	450	.43
North Tonawanda	13,000	5,500	800	850	3	283	.42
Tonawanda	9,000	2,890	800	200	1	200	.32
White Plains	19,379	5,000	800	1,800	3	600	.26
CITIES OUTSIDE OF NEW YORK STATE							
Boston, Mass	722,465	357,250	*5,000 †4,000	264,581	280	944	.49
Bridgeport, Conn	115,000	76,076	2,000	10,272	13	790	.67
Chicago, Ill	2,250,000	2,427,512	10,000	973,814	1,100	885	1.08
Cincinnati, O	400,311	128,967	5,000	88,868	85	1,045	.32
Cleveland, O	650,000	218,213	3,500	189,075	220	859	.33
Columbus, O	199,689	54,000	2,400	38,520	50	770	.27
Dayton, O	116,000	.....	3,600	25,860	30	862	.....
Detroit, Mich	520,586	385,165	5,000	169,740	151	648	.76
Duluth, Minn	86,000	55,000	1,200	28,558	44	649	.64
Fort Wayne, Ind	72,322	22,300	1,500	16,460	20	823	.31
Grand Rapids, Mich.	123,000	84,312	2,000	32,044	55	582	.68
Jacksonville, Fla	67,209	39,140	3,000	30,400	30	1,013	.58
Harrisburg, Pa	69,079	44,208	1,500	5,950	10	595	.64
Jersey City, N. J	293,000	40,234	3,000	29,000	25	1,160	.14
Kalamazoo, Mich	45,000	10,370	1,500	8,670	10	867	.23
Lawrence, Mass	93,471	90,000	2,500	11,049	12	920	.96
Louisville, Ky	250,000	32,000	3,000	15,640	24	651	.13
Lowell, Mass	106,294	91,635	1,825	12,116	17	712	.86
Lynn, Mass	95,000	81,778	1,300	11,366	15	757	.86
Nashville, Tenn	121,818	44,205	4,500	30,300	26	1,165	.36
Newark, N. J	395,000	351,458	5,000	172,500	297	580	.89
New Bedford, Mass.	107,766	90,000	2,200	19,242	26	740	.84
Ottawa, Can	100,000	94,725	4,200	23,170	24	965	.95
Philadelphia, Pa	1,631,956	568,831	4,000	372,961	638	584	.35
Providence, R. I	245,000	57,500	3,000	20,177	33	611	.23
Reading, Pa	103,144	19,573	2,000	9,050	11	822	.18
Salt Lake City	125,000	72,500	2,400	30,070	28	1,073	.58
San Francisco	475,000	141,094	3,600	11,447	85	1,311	.30
Tacoma, Wash	103,000	38,976	1,500	27,670	22	1,257	.38
Wheeling, W. Va	42,817	27,480	2,400	9,540	11	867	.64
St. Louis, Mo	750,000	160,000	3,000	120,600	118	1,022	.21
Toronto, Ont	510,000	277,958	7,000	143,117	235	617	.54

* Chairman
† Commission

Digitized by Google

	Expense, general office	Expense, vital statistics	Expense, food inspection	Expense, laboratory	Expense, sanitation and nuisances	Expense, child hygiene school inspection, dental	Expense, tuberculosis work	Expense, disinfection and fumigation
Employes	199	63	133	135	193	654	568	45
New York	$376,035	$64,955	$132,196	$207,625	$637,181	$531,181	$531,248	$47,546
Employes	8	3	20	7	8	49	114	4
Buffalo	$12,758	$8,012	$25,146	$13,057	$11,987	$47,958	*$154,608	$6,194
Employes	24	.....	1	.....	4	.....	.....	.....
Albany	$21,685	.....	$1,500	Contract	$4,320	.....	.....	.....
Employes	.....	1	2	.....	2	.....	.....	.....
Binghamton	$600	$1,200	$1,450	$450	$2,750	.....	$5,050	.....
Employes	3	1	6	4	4	4	4	.....
Syracuse	$2,940	$1,400	$7,583	$6,760	$5,052	$2,540	$4,360	$1,800
Employes	2	1	2	1	3	3	.....	.....
Troy	$4,046	$1,200	$1,720	$700	$2,160	$3,800	$300	$1,020
Employes	6	.....	.....	.....	.....	.....	.....	.....
Gloversville	$9,000	$200	$600	$300	$1,000	$1,600	Private	.....
Employes	.....	.....	.....	.....	.....	.....	.....	.....
Jamestown	.....	.....	$150	.....	$1,020	.....	$900	$300
Employes	1	.....	1	1	2	1	.....	.....
Mt. Vernon	$1,215	.....	$50	$500	$2,000	$950	.....	$750
Employes	1	1	.....	.....	1	.....	1	.....
Kingston	$1,050	$700	.....	.....	$1,000	.....	$100	.....
Employes	.....	.....	.....	.....	.....	.....	.....	.....
Oswego	.....	Fees	$720	.....	$600	$800	.....	.....
Employes	.....	.....	1	.....	.....	1	.....	.....
Watertown	.....	.....	$1,500	.....	.....	$800	.....	.....
Employes	.....	.....	.....	.....	.....	2	.....	.....
Canandaigua	.....	.....	.....	.....	.....	$240	.....	$12
Employes	.....	.....	.....	.....	.....	.....	1	.....
Corning	.....	.....	.....	.....	.....	.....	$900	.....
Employes	.....	.....	1	.....	.....	1	.....	.....
Cortland	.....	.....	$600	.....	.....	50c. each ex.	$1,200	.....
Employes	.....	.....	1	.....	1	.....	.....	.....
Fulton	.....	$1,000	$350	.....	$1,000	.....	.....	.....
Employes	.....	.....	.....	.....	.....	1	.....	.....
Glens Falls	.....	.....	$650	$1,700	.....	$500	.....	.....
Employes	.....	.....	.....	.....	.....	.....	.....	.....
Hornell	.....	.....	.....	.....	$723	50c. each ex.	$500	$309

* Including hospital

Employes	2	1	3	.....	1	.....	.....	.....
Ithaca	.....	.....	$900	.....	.....	.....	$1,050	.....
Employes	.....	1	.....	.....	1	1	.....	.....
Johnstown	$800	$75	.....	.....	$600	$500	Private	$100
Employes	.....	.....	.....	.....	.....	.....	.....	.....
Little Falls	.....	.....	.....	.....	$1,420	.....	.....	.....
Employes	.....	1	.....	.....	1	2	.....	.....
Lockport	.....	.....	H. O.	.....	$900	$500	$2,360	.....
Employes	4	1	.....	1	1	2	1	.....
Olean	$2,360	$40	.....	$50	$40	$120	$75	.....
Employes	.....	.....	1	.....	.....	.....	.....	.....
Plattsburg	.....	.....	$300	.....	.....	.....	.....	$50
Employes	.....	.....	.....	.....	.....	.....	.....	.....
Salamanca	.....	.....	.....	.....	.....	.....	.....	.....
Employes	.....	1	.....	.....	.....	.....	.....	.....
Saratoga Springs	.....	$970	.....	.....	$2,900	.....	.....	$200
Employes	.....	.....	.....	.....	.....	.....	.....	.....
North Tonawanda	.....	.....	$150	.....	.....	.....	.....	$100
Employes	.....	.....	.....	.....	.....	2	.....	.....
Tonawanda	.....	Fees	.....	.....	H. O.	.....	State	$100
Employes	.....	.....	.....	.....	.....	1	1	.....
White Plains	.....	$150	$300	.....	.....	.....	$900	.....
Employes	7	4	30	8	53	104	.....	7
Boston, Mass	$68,710	.....	$44,337	$13,809	$62,714	$64,751	.....	$9,818
Employes	.....	.....	1	.....	2	5	.....	.....
Bridgeport, Conn	$850	.....	$1,000	$500	$1,972	$4,900	.....	.....
Employes	18	17	102	31	115	*349	.....	.....
Chicago, Ill	$32,620	$22,780	$134,460	$38,520	$158,564	$321,440	.....	.....
Employes	4	2	19	3	14	41	2	.....
Cincinnati, O	$12,249	$1,785	$22,070	$6,599	$13,397	$43,758	$2,460	.....
Employes	3	2	34	17	32	71	45	.....
Cleveland, O	$5,520	$1,870	$48,842	$19,530	$38,905	$33,829	$38,812	.....
Employes	4	1	13	2	11	.....	.....	.....
Columbus, O	$2,380	$1,500	$16,300	$3,100	$10,000	.....	.....	$2,200
Employes	4	.....	4	2	4	4	.....	.....
Dayton, O	$4,595	.....	$5,225	$2,905	$4,125	$6,725	.....	.....
Employes	6	3	16	3	4	57	.....	.....
Detroit, Mich	$23,810	$3,800	$23,100	$7,500	$5,200	$56,200	$55,000	$3,500
Employes	2	1	4	1	3	2	2	.....
Duluth, Minn	$175	$75	$25	$405	$220	$125	$170	$1,002
Employes	7	1	2	.....	4	.....	.....	.....
Fort Wayne, Ind	$8,550	$550	$2,490	.....	$5,360	.....	.....	.....
Employes	8	.....	2	.....	9	2	.....	.....
Grand Rapids	$4,582	.....	$3,705	$964	$6,145	$5,650	County	$2,481
Employes	1	.....	2	1	16	9	.....	.....
Jacksonville, Florida	$2,500	General office	$2,280	$2,400	$16,320	$3,500	.....	$1,020

* With tuberculosis

Digitized by Google

	Expense, general office	Expense, vital statistics	Expense, food inspection	Expense, laboratory	Expense, sanitation and nuisances	Expense, child hygiene school inspection, dental	Expense, tuberculosis work	Expense, disinfection and fumigation
Employes	2	...	1	1	2	6	...	...
Harrisburg, Pa	$5,628	State	$2,448	$100	$1,800	$1,680	State	...
Employes	4	...	...	...	9	...	...	...
Jersey City, N. J	$15,500	County	$2,200	$2,000	$11,000	School Dept.	County	Yes
Employes	2	...	2	1	2	2	...	...
Kalamazoo, Mich	$2,700	...	$2,450	$1,550	$1,420	$900	$67,200	...
Employes	2	...	3	...	1	3	...	...
Lawrence, Mass	$1,726	...	$2,000	...	$1,200	$2,200	...	$1,000
Employes	3	...	1	3	6	6	...	...
Louisville, Ky	$2,093	...	$533	$1,199	$1,800	$1,680	...	$125
Employes	1	...	1	1	1	4	...	1
Lowell, Mass	$5,139	$765	$766	$1,000	$1,095	$800	$5,859	$1,455
Employes	1	1	3	...	5	...	...	1
Lynn, Mass	$3,442	...	$2,943	$1,843	$5,500	$2,200	$28,963	$1,466
Employes	...	1	7	2	...	...	4	...
Nashville, Tenn	...	...	...	...	...	...	...	...
Employes	13	...	7	60	20	7	7	11
Newark, N. J	$29,994	City clerk	$16,467	$16,375	$24,000	$2,757	$32,481	$14,637
Employes	3	...	3	2	1	6	1	...
New Bedford, Mass	$3,824	...	$5,600	$2,000	$1,100	$5,650	$25,988	...
Employes	5	...	4	4	8	5	...	1
Ottawa, Can	$11,550	General office	$5,200	$6,420	$6,900	$9,500	$34,500	$1,700
Employes	12	12	25	24	53	28	State & private	11
Philadelphia, Pa	$14,844	$13,888	$26,648	$37,391	$79,013	$20,504	...	$19,148
Employes	3	4	8	1	2	18	...	1
Providence, R. I	$3,284	$17,658	$15,347	$1,450	$3,368	$12,758	$58	$639
Employes	1	1	6	1	2	4	3	...
Reading, Pa	$1,126	$1,200	$3,000	$1,316	$2,080	$2,100	State	$450
Employes	2	...	11	2	6	4	...	2
Salt Lake City	$3,333	General office	$12,908	$1,992	$7,117	$3,840	...	$2,686
Employes	11	3	24	8	7	17	1	2
San Francisco	$31,380	$4,335	$35,895	$12,910	$8,900	$18,036	$6,900	$4,796
Employes	1	...	2	2	3	...	...	...
Tacoma, Wash	$900	General office	$3,853	$3,445	$3,450	School Dept.	T. B. league	...

Digitized by Google

Employes	1	.....	2	1	4	3	.....	.....
Wheeling, W. Va	$1,060	.....	$2,100	$800	$3,100	$2,100	Private	$250
Employes	12	4	14	7	85	.....	.....	.....
St. Louis, Mo	$19,616	$3,884	$19,936	$12,113	$115,458	School Dept.	Private	Under sanitarium
Employes	14	1	14	9	21	17	24	7
Toronto, Ont	$4,600	$1,100	$28,050	$14,735	$18,950	$10,000	$22,938	$5,850

Digitized by Google

PROF. WINSLOW — You will note that I only dared suggest 50 cents per capita, and Dr. Fronczak points out that Dr. Evans sets it at $1. At the time this chart was made out Chicago had not reached that, but I should like to hear a word from Dr. Evans.

DR. EVANS — The point made by Dr. Winslow came to my mind as I listened to Dr. Fronczak's statement and compared it with the sum as it added together up there on the map. Now I think that the fact that there is a difference and the nature of the difference between those two sets of figures runs in reality to the heart of this question. For instance, I notice that in the column for tuberculosis on the chart nothing is given for Chicago, whereas I think our largest item of expenditure is for tuberculosis. How does that arise? How does it happen that tuberculosis is not there included? Under our law tuberculosis has a special tax, the fund collected by that tax goes into what is known as the tuberculosis fund and that is administered by a commission composed of three members, one of whom is ex-officio, I mean the Commissioner of Health. It is in reality a health department fund. Their offices are in close touch with the offices of the Health Department, although it was best under the circumstances for their approval to make that a special fund with a special tax levied for its support and maintenance. I am not going to develop that point. When we come to analyze the reports from different cities we find that the greater part of the difference, as the first speaker to whom I listened indicated, is a difference in methods of figuring rather than in the amounts of money available. There is nothing, gentlemen, that calls for closer thought on your part than this matter of obtaining your budget. In the first place it is rather easy to get a budget if you are willing to tread the primrose path, for there is a primrose path in this as in anything else. If the health commissioner is willing to be free and easy, if he is willing to permit a good many bosses, willing to allow a good many people to go on his payroll who have no business there, it is apparently easy for him to get appropriations. That is what I mean by the primrose path, but the man who tries to do his duty, the man who tries to protect the reputation of his department, to secure efficiency for his department and to do good work will, of necessity, run counter to the sentiment of a great many of his Aldermen or

Digitized by Google

Council, or whatever you term them in your different communities and will have difficulty in getting his budget. I heard a discussion this morning, the like of which I have heard frequently, on this situation. The statement was made that a certain Mayor had absolute authority, and that statement was questioned, and the ground was this, that while he might seem to have absolute authority in reality he did not. The final word of authority rests with the Chairman of the City Council or the Board of Aldermen who are making the appropriations.

I told you that by treading the primrose path you could get appropriations that are desirable in a certain sense, but is that any way to get appropriations that are desirable? I think that Commissioner Fronczak has made plain to you what is the method. The method consists in an analysis of the items of the budget as asked for with emphasis upon the fact that the item for the particular type of work is a small item although the whole may be large, and there is great aid to be had from a comparison between your askings for each of these items and the askings for other things. I think it was about 1910 that the Census office at Washington got out a report on municipal expenditures in the United States, a report as I remember it, which did not contain anything except a comparative expenditure of health departments. Whether there were comparisons of police departments or fire departments I am not able to say just now but I do remember that in this Bulletin from the Census Department — it may have been 1908 or 1909 — there was a comparison of health expenditures in all parts of the country. I do not believe the Department has ever issued a more misleading document than that. It was written by Dr. Powers. It was impossible to issue a document covering those subjects without having it misleading, for there had been no effort to standardize budgets or to standardize municipal health department activities throughout the country. There was absolutely no standard, and when Dr. Powers attempted to bring something of order out of that chaos he succeeded and succeeded miserably. Just after that document had been issued we persuaded Dr. Powers to make a study of the subject and to write the report that Dr. Fronczak has referred to before. I may say that you may not only get that in the transactions of the section

Digitized by Google

on preventive medicine of the A. M. A., but that Dr. Powers has issued it as a reprint and I am sure if you will write to the Census office at Washington you will have no difficulty in securing a copy of that reprint. It will be a very serviceable document for you to have.

When you go before your board of Councilmen and ask for appropriations, in the first place you must divide them up. This is the custom of time and it is wisdom, as Dr. Fronczak has said. You must also, if you are to make any headway, be able to show to your councilmen that other communities are doing this and show that other places are contributing a certain per capita amount. You will find that nothing is more convincing to your aldermen than an argument of just that sort. Now what is the reason of that? The reason is this. At the present time in our state of evolution we represent the welfare department. Other departments are for the protection of property and property interests, but the only human welfare department is the health department. Therefore you have a potential weapon in going before any man who opposes appropriations. He is opposing the only appropriation that has to do with the conservation of the people themselves — the men, their working capacity; the women, their capacity for the relations of home life. No alderman can stand up against such argument as that made with force and made with conviction. If you can show that alderman that he is not doing as well by his people for the protection of those people against tuberculosis as some other community is doing on infant welfare or milk inspection or food inspection, you will get that which you are seeking to get.

Now that leads to this which I offer to you as a practical suggestion. In the first place, having gotten this document by Dr. Powers, you will find that it applies more particularly to the larger communities and the larger cities. You will find that it will be especially helpful to these and that the fine subdivisions that were possible and that represent good judgment in the larger cities are not good judgment in the smaller communities. You have to lump together in one Bureau or one Department many of those activities. Dr. Geo. T. Palmer, Springfield, Ill., and the Health Commissioner of Rockford, Ill., got out some similar statements applicable to small communities. Rockford has a population

Digitized by Google

of 20,000 and Springfield 30,000 to 40,000, but for the guidance of the smaller communities there is not very much now available. Therefore I am going to offer this suggestion — that, either at the central office of the State Department of Health of New York, or better still, in the meetings of a committee of this group appointed for the purpose, there be an effort made to investigate health department activities in the State of New York, to investigate the budgets of the different health departments of the State of New York. Take this data which Dr. Fronczak and the gentlemen who preceded him brought, and still further analyze it and work out standards, budget plans or budget schemes for communities of two or three or four or six classes, as the case may be in this State.

Now this is not a subject which can be properly covered in a discussion of the paper or by the paper itself. Such papers and such discussions merely contribute to its solution. There are matters of detail that can only be properly cared for in the Council of a Committee assembled in an informal discussion around a Committee table. I am going to suggest that we do not take all of the advice of the gentleman who read the first paper. This is the idea that I have in mind. It is undesirable, of course, when you go before your board of aldermen and ask for an appropriation that your Aldermen should call your attention to the fact that the appropriation for the health department in this particular town is already larger than the appropriation for the health department in another town, when the difference is by reason of the fact that your figures are swelled by some item that is in your budget that is not in the other man's budget — such items as the removal of ashes, plumbing inspection, and that group of things. There isn't any harm in having those items in your health budget, provided they are carried uniformly in health budgets of the same size cities throughout the State, and provided the fact is not used as an argument why you should not have larger appropriations than you are getting. I believe in those things remaining in the budget of the health department. I do not know as I would be in favor of leaving the removal of ashes in the health budget, but in general I am in favor of leaving them there uniformly rather than dropping them out uniformly.

Digitized by Google

Now why is that? I know fairly well the discussion around this, particularly that raised by Dr. Hill of Minnesota in his very admirable work. I know the force of the arguments that are put forth in that admirable book. At the same time, gentlemen, there are certain things that do not lend themselves to determination, that can't be decided at the rate which the proof can be made. There are certain things upon which we must rest the case with the Scotch verdict of "Guilty but not proven." I know of the discussion of the effect of sewer air, a discussion to which no one has contributed more than Dr. Winslow, but although there is no proof that sewer air directly determines ill health, or that faulty plumbing is responsible for ill health, I believe that at the same time by proper attention to house draining we have not only directly improved the desirability of habitations but have added to the lives of our citizens. How impossible it would have been to have developed our city life as it has been developed had we not as a preliminary procedure solved this question of house draining! There are certain things that we do for the purpose of establishing and maintaining a sanitary standard. We can't get proper control of scarlet fever until we first, as a basis for that, get a proper health conscience in the minds and hearts of the people. We have to expend a certain amount of effort and a certain amount of money for the elevation of the people up to a certain level, up to certain sanitary standards. Many of these things that have in reality, as Dr. Winslow has shown and as others have shown, but very slight direct bearing on health, still have very great indirect bearing upon health. Here's the illustration. The illustration is to carry this item in the budget of the Public Works Department and the future will hold a diminution of the activities of the Department known as the Department of Public Works, rather than an increase in those activities. The Department of Public Works is in reality a hodgepodge department which grew out of the time when communities did not do very much for their people. We commenced to do things and put those unrelated things in one department we called the Department of Public Works. Now as we proceed to increase the number of governmental activities we are going to split up those things and assign them to various other departments. My suggestion then, concretely, is this, first, that

Digitized by Google

you write to Washington to Dr. Powers of the Census office for this Bulletin reprint; that you carefully study it; that you appoint a committee to investigate or ask the central authorities of the State Board of Health to investigate the matter of budgets to the end that a standard budget or a series of standard budgets may be outlined for use in the State of New York — say one for larger communities, others for communities of middle size, and still others for small sized communities.

PROF. WINSLOW — I am sure the members of the meeting will all take advantage of Dr. Evans' suggestion as far as Dr. Powers' Bulletin is concerned, and I know as far as I myself am concerned I will lay the plan for a special Commission before Dr. Biggs. We have heard of the Massachusetts uniform system of Board of Health accounting, and we are fortunate in having with us today Dr. William C. Hanson of Massachusetts, and I am going to ask him to tell us something about that.

DR. HANSON, Acting Commissioner of Health, Massachusetts — The matter referred to was taken in hand by a Committee of four or five men, mostly Massachusetts men. The chairman, however, was Dr. Chapin of Rhode Island. The work of operating was along the lines suggested by Dr. Evans. This Committee tried first to get a standard for the larger cities to live up to, and then tried to show a standard for the smaller cities and towns which, however, would be varied according to the size of the smaller communities. In doing the work the Committee came in contact with health officials outside of the State, and I think very likely Dr. Evans was consulted by Dr. Chapin. It was intended only to have these standards for suggestions to the various boards of health because in making up the report the Committee did not have time to investigate fully the budgets of different Boards of Health throughout the State. This should be done, however, and some officials of our Department have already begun to make such a study. The smaller communities are visited first and a very careful study made of the observations and proceedings in connection with the work of these communities. The methods used in the larger towns and the cities are then studied. It seems to be the only way of getting at the problem — to study the existing conditions in all the different local communities, and the manner in which the work is conducted in these different communities. Of course there is great variation in the methods

Digitized by Google

of getting the money, and there has been very little publicity work, either through the local board of health or any other board. Such work as this is really original work and it means that the State Health authorities must give a large amount of their time to intensive investigations before we can get that kind of information which will enable us to deal intelligently and in a practicable way with officials in local communities in order to raise their work to higher standards with a reasonable degree of uniformity.

PROF. WINSLOW — Judging by the congestion of the meeting which we left behind us I think we can spend twenty minutes for general discussion.

DR. SEARS — I was exceedingly impressed with Dr. Evans' paper. I found so many things that seemed to agree with my experience in publicity work. A little illustration which may prove of interest is when I was one of three men on a Committee to select a site for a Tuberculosis Hospital. We had the politicians against us, and the newspapers were against us, and we three men went at it for public opinion. There was not a politician in the city who wasn't with us when we got through, and we have a site that will probably be the most beautiful site in the State of New York. This was due to just three men who everlastingly kept at it. We got one newspaper, and we got another newspaper, and finally broke down the barriers and they had to let us have it. That is what you have to do — everlastingly keep at it. Keep pounding until finally they give in to you. Another thing which it seems to me is exceedingly important is the taking of these men and showing them what you are doing. Get them in touch with you. Just a little illustration: Up to last spring the city of Syracuse had never spent a dollar for infant welfare work. It had all been done outside. We started in with an infant welfare exhibit, which cost us over $7,000. It was financed by the Chamber of Commerce, and we put them in a hole for $5,000, but we are going to get them out of it. I asked the Mayor to address them from the steps and he promised to do so. We got the Exhibit ready and the Mayor was not there. We asked where he was and were told he was at a meeting of the Board of Estimate and Apportionment. I went there and told the Mayor he had promised to address the people at our Infant

Digitized by Google

Welfare Exhibit and how important it was, and he told me he would be with me in a minute. I hustled him there and through the Exhibit as fast as I could before he had a chance to say anything, and he was so impressed with it that he said, "I had no idea what it was; I think it is perfectly wonderful." I have already announced that I am going to ask for $4,000, and he has said that he will be with me. I never could have gotten him to give a cent unless I had shown him. You have to let these people know what you do. We have established a Municipal Conference with all the officials of the city to go over these things, and when I sent in the six months' report of the city of Syracuse showing that we had actually put in all those things with $5,000 less than the appropriation, the Mayor said, "Doctor, I will see next year that you get what you ask for." If they do not know what you are doing they won't do anything. That is what I like about Dr. Evans' paper — the publicity is what is going to tell. Do not let them think you are going to lay down. I agree with Dr. Fronczak to put the items in small.

DR. HANSON — It is very doubtful in my mind as to whether anyone can standardize the keeping of expense accounts in such a way as to be really valuable and applicable to all communities. I believe after all in the work of the individual community done under the advice and supervision of a man or men who have had wide experience in solving community problems. In other words, take a town of 500 inhabitants in Massachusetts. I believe that the way to get efficient results in health work is to have a State Advisory official go into the town and deal with local conditions and local officials and consider in what ways the most good can be accomplished by the least expenditure of money. Of course it would be advisable to compare work done in communities of similiar size and nature but after all the problem is to find the needs of that special community.

DR. GRAM — May I just say a word? I listened with a great deal of interest to the various addresses, from Governor Glynn to our friend Dr. Evans. I went through each session and all the various parts, and I noticed a great many of them put the loud pedal on the politician and some of them said a great deal about publicity. Among all the speakers that I recall the only

Digitized by Google

man who mentioned one of the conditions — not theories — that every health department is up against — Christian Science — was the Governor. I just wanted to get to my feet to say what we have succeeded in doing with Christian Science through publicity. We have in Buffalo one concern that employs over 5,000 people — men, women and children. The head of that concern is one of the principal men of the Chrisian Science cult of Buffalo, and when I say that you all know what that means. They have absolutely no use for a health department. We have tried all the various methods of publicity — from printer's ink to stereopticon and nickel shows during the last ten years, and the only one we have found of any use has been printer's ink. During that period we have issued a bulletin which started from a four page sheet which we doubled to an eight page sheet and then to a twelve page sheet. We issue that in editions of 12,000 and see that the proofs are distributed to all papers in advance, and we regularly mail it to all the physicians, ministers, dentists, undertakers, midwives, and such other persons and places where we think it does good, and in addition we send it to everyone who applies. This bulletin condenses all the latest health news. It was, therefore, with a great deal of satisfaction, to say nothing of surprise, when we received a request from this man, whom I mentioned, for 5,000 copies regularly to be distributed in that establishment. He wanted practically one-half of the entire edition, so you can see the result in that one single example in our city alone. Not only that, but I was surprised last month to receive a personal request from him that I go to his establishment with all my tuberculosis force and make a tuberculosis survey.

PROF. WINSLOW — Is there further discussion?

DR. HUBBARD — I am Sanitary Supervisor of the district which includes Mt. Vernon and I quite agree with the gentleman of Massachusetts when he says that in estimating the value of the amount of money spent in a community the local problems must be considered. It happens that in the city of Mt. Vernon 90 per cent, yes probably more than 95 per cent of the milk is supplied to the community by two companies, the Borden Company and the Willow Brook Dairy Co., whose milk is supervised most

Digitized by Google

rigidly by the companies themselves, and the Borden by the New York City Milk Commission, and as little milk comes in outside of that it would seem quite unnecessary for the city of Mt. Vernon to spend large amounts of money in doing work which is done by the companies themselves and the city of New York. The milk furnished by the Willow Brook Co., is either certified or pasteurized. It seems that each city has got to study out the particular thing where the leak is, where the danger is, and put the most money into that. It is, therefore, almost an impossibility to standardize the division of money in cities of the third class, because local conditions may vary so much, and it is also very difficult to subdivide, as is done in New York City, the expenses for various activities. The New York City Department of Health has distinct divisions of work and it is easy to classify the budget for each division. In a small city you may have one man who is doing various kinds of work — he may be doing tuberculosis work; he may be doing sanitary work, and the money that is paid to him has to be divided among those particular varieties of work, so it seems to me the question of the budget is quite a complicated problem for the small city.

DR. DURYEE — There are two things in the budget. There is not alone money in the budget but activities in the budget, and we must not get away from the fact that the more we concentrate our work on the various items themselves the more reasonably equipped we will get our budget.

PROF. WINSLOW — Dr. Fronczak tells me that there is a picture to be taken at one o'clock, so I think we had better adjourn.

Digitized by Google

Town and Village Health Officers' Session — Wednesday Morning, September 16, 11 a. m.

Held in United States Hotel, Mr. Theodore Horton, Director, Division of Sanitary Engineering, presiding

MR. HORTON — The meeting of the village and town health officers will now be called to order, and in opening this meeting I feel that it may be appropriate to call attention to the present status and some of the opportunities of rural health work. As many of you know, Commissioner Biggs, upon taking office, most strikingly and forcibly called attention to the increasing death rate in the rural communities and the decreasing death rate in urban communities of the State. The obvious conclusion reached by Commissioner Biggs was that if we are to lower the death rate throughout the State as a whole, we must spend more time and pay more attention and do better health work in the rural communities than we have in the past. I believe therefore that we can not emphasize too strongly the importance of this health work in rural communities.

Now I have been very fortunate in having been able to learn by personal experience, first-handed as it were, how difficult it is to secure ideal sanitary conditions or improvements in the country and particularly on the farm. And when one endeavors to tell me that it is easier to have these ideal conditions in the rural districts I know that he has either never lived upon a farm or has never taken the time to investigate and learn for himself the facts.

I have frequently asked myself why this is so, why it is more difficult to secure better or as good sanitation in the country districts than in the urban municipalities and I have never been able to give one broad answer to it. The fact is, there are a number of reasons. In the first place, there is the comparatively small and compact size of the city home and premises as compared with the farm or country home. This makes it simpler and more convenient for the householder to attend to the daily personal acts that make for good sanitation in the city than in the county. In the second place we find that there are certain conditions in the village and in the country, especially on the farm, which are incompatible with good sanitation. Take for example the well. The farmer must, for convenience, locate his well near his house. He must for the same reason locate the well near his barn. He may even be forced by natural necessities to locate it in some low section on his farm where an ample supply is more available. It is obvious that the fulfillment of these conditions is incompatible with good sanitation.

The same may be said with reference to the privy or the cesspool. The farmer must of necessity, and for his own convenience, locate them near his house, and unless he is a good sanitarian, which he usually is not, only by the merest chance will he locate it so it will not pollute his well.

Now I wasn't asked to preside at this meeting for the purpose of presenting or of elaborating my own personal views in regard to these things. We have a number of very competent speakers here this morning who are to present their views on important questions of rural sanitation, and I find myself, owing to the lateness of the hour, presented with a very difficult and strategical problem of having presented five papers in the three-quarters of an hour that remains of this session, and at the same time giving something like fifteen minutes discussion to each one. I am therefore forced to ask Dr. Wadsworth if he will kindly allow his paper to go over to the end of the program; and the Sanitary Supervisors on the program if they will kindly give way in deference to the health officers not immediately associated with the Health Department. I will ask furthermore, in discussing the first paper on the program on "Isolation and Disinfection During and After Communicable Disease," whether Dr. Bullard will present his discussion on this paper first? Is Dr. Bullard present?

Digitized by Google

ISOLATION AND DISINFECTION DURING AND AFTER COMMUNICABLE DISEASE

T. E. BULLARD, M.D.
Health Officer, Schuylerville, N. Y.

The subject of this paper is one which has been presented at these conferences with considerable regularity since their inauguration. But until that time when we shall universally take such precautions and follow such procedures that no case of communicable disease shall ever occur it will continue to be of interest to all who aspire to limit and prevent this class of disease.

It seems to be definitely proven that all communicable diseases are caused by the entrance into the system of definite microorganisms which it is possible under ordinary circumstances to convey from one person to another either direct or by the means of infected persons or things, and that they are not caused by indefinite somethings which exist in or travel long distances through the air, as was formerly supposed.

This being the case, it simplifies to a certain extent the procedures by which we hope to curtail and prevent if possible the occurrence at least of these communicable diseases with which public sentiment has thus far allowed us officially to deal.

The isolation of a patient ill with communicable disease is best accomplished by placing him in a well-screened room or apartment as far from the rest of the household as possible from which has been removed every unnecessary article of furniture, piece of bric-a-brac or hanging, and allowing him to come into contact with no one except those who are necessary for his care and attention, and such officials as may come into contact with him in the interest of the public health. Where it is possible to do this, adult members of the family who do not come into direct contact with the patient may be allowed to attend to their usual vocations provided the same does not bring them into contact with children. Children being especially susceptible to communicable disease, and possibly affected by the disease at its most critical period as far as communicability is concerned, they should be at least kept on the premises and by no means allowed to attend

Digitized by Google

school or come into contact with other children; especially those who have not been affected by the disease.

It is the duty of a physician to at once isolate all cases of communicable disease under such rules and regulations as may be prescribed by the code. Such isolation should continue until the patient is released by the health officer, which should not be until such time as he is satisfied that the patient and attendants are not likely to communicate the disease to others, this fact to be determined by laboratory examination whenever it is feasible to do so.

While the reasons for the isolation of all the various communicable diseases would appear to have equal weight, in actual practice we are compelled to modify our procedure in deference to certain known facts as well as to public opinion.

For instance, smallpox is a communicable disease which has absolutely no justification for its existence and we are authorized whenever a case of this disease appears to cause the same to be removed to a suitable hospital, if one is available, and if unable to do this, to quarantine the entire family.

Diphtheria, scarlet fever, typhus fever occurring in a hotel, boarding or lodging house are also to be removed to a hospital (whenever it is practicable to do so) provided they can not be safely isolated on the premises.

Cases of tuberculosis are to be taught to disinfect and destroy their sputum, to avoid close personal contact with others, but are allowed to go at large unless they can be induced to enter a tuberculosis hospital, provided one is available. Cases of trachoma are not to attend school, while their brothers and sisters may; on the other hand with gonorrhea and syphilis we have not as yet been able officially to deal. So that, while the statements in this paper are applicable in a general way to all cases of communicable diseases, for definite procedure in any individual case the sanitary code or the special rules and regulations of the State department, or your own local board must apply.

Placarding is an important incidental to the isolation of those cases of communicable disease for which it is required by the code. It is not very difficult to convince a great many of the advantages of having a case of communicable disease reported, and of having the case isolated or the house quarantined as the

Digitized by Google

case may be, and then being released as clean by the health officer. They can be shown how, if they follow this course, their friends are going to feel more comfortable about putting them on their calling lists again. If they are in ordinary circumstances and likely to need material help, the fact that they are under the jurisdiction of the health department not only assures them that they will receive this help, but makes them feel more comfortable about receiving it. The placard is their certificate, that they are under the jurisdiction and care of the health department. It is the note of warning to the innocent visitor who did not know, and the notice to the careless to keep out. In addition, when the neighbors begin to inquire why it was that Smith had his card on the door of an upstairs room and was allowed to go to work, while Jones had his on the front of the house and perhaps had to stay at home, and it is explained to them that Smith was able and willing to provide the conditions necessary for the isolation of the patient, while Jones could or would not, and had to be quarantined, they are not slow to see the difference, and should the matter become personal with them, you may be assured they will provide the conditions necessary for isolation in preference to quarantine if it is possible for them to do so.

After isolation of a patient, the disinfection and destruction of the secretions and excretions and other infectious material thrown off by the patient (and the care taken to prevent their being carried to others by nurses, attendants, physicians, insects, and other agents) is of the greatest importance. Secretions from the mouth, nose, throat, eyes, and ears, especially in diphtheria, mumps, measles, chickenpox, whooping cough, tuberculosis, epidemic cerebrospinal meningitis, poliomyelitis, epidemic streptococcus (or septic) sore throat, scarlet fever and smallpox, should be received on paper, cotton, or cheap fabrics, and burned. Sputum is best received into paper sputum cups and burned, or it may be received into ordinary tin cups containing 5 per cent. carbolic solution, or what is, I believe, preferable, a solution of liquor cresolus compound; this latter preparation is made by mixing the cresols with oil which has been saponified with potash; it mixes readily with water while ordinary crude or pure carbolic acid does not; being a soap, it assists in dissolving the secretions and in cleaning the

Digitized by Google

vessels in which it is used and is not especially expensive. It can be used in the same strength as the carbolic, although a somewhat weaker solution would probably be equally effective.

Fabrics which become contaminated by secretions and are too valuable to be burned should be immersed for one hour at least in a liberal quantity of carbolic or the compound cresol solution, after which they may be laundered.

Discharges from the alimentary and urinary tract especially in typhoid and paratyphoid fevers, dysentery and Asiatic cholera should be received into vessels containing strong carbolic or the cresol solution above mentioned, or milk of lime. Water equal to twice the volume of the discharge should then be added, lumps broken up, and one-eighth the total volume of unslaked lime added. The granulated lime is especially suitable for this purpose and ordinarily readily obtained. After standing for an hour, the vessels may be emptied, when they should be immersed in a disinfecting solution before being used again.

Where shall we empty the pans and vessels? In the country and sometimes in villages it is often possible to find a place where we can have a hole dug, say 2 x 5 x 5 or 6 feet deep, which affords sufficient room and a good lot of dirt for cover. So that, pans, vessels, and other wastes which cannot conveniently be burned may be emptied into it and covered each time. This may not be ideal, but it is superior to dumping into the privy, where the ever present fly might find just the one germ that had escaped our otherwise perfect technique, or perhaps the whole panful that might accidently be thrown out without disinfection, while our skilled attendant slept, or perhaps was disabled, or perhaps you have no skilled attendant. Instructions have been left and explained, but without at least two skilled attendants, it is not safe to dump discharges from the urinary tract or bowels into water closets or privies. Crematories are expensive, and a good deep hole in the ground as far as possible from the well, with plenty of dirt handy for cover affords the only practicable method of disposing of these discharges (after doing the best that we can to get them disinfected) that I know of.

The discharges from the genital tract as well as those from open wounds, ulcerations, or secretory surfaces of the skin should be

Digitized by Google

received on clean at least, sterile if possible, absorbent cloths or cotton, and burned.

Wherever the skin becomes infected by any of the discharges above mentioned, they should be disinfected and cleansed; this can be done by 2½ per cent. carbolic or 1-1,000 sublimate solution followed by soap and water, or it can be done at one process by using a 1 per cent. solution of the compound cresol solution, which being a soap cleanses and disinfects at the same time. A sufficient quantity of the solution should be prepared, and the necessary number of pieces of cloth, mops, or pieces of cotton placed in the solution; after using each piece, it can be placed in a receptacle for the purpose of conveying it to the stove, if it is to be burned; or to the hole in the ground, if it is to be disposed of that way. By this method, the bowl in which the solution is prepared and the hands of the attendant do not become so extensively infected. Sometimes the skin of the patient becomes so sensitive that all carbolic and mercurial preparations have to be abandoned, in which case tincture of green soap and water, followed by 75 per cent. alcohol, is the best substitute.

The mucus membrane of the mouth and nose cannot be treated very vigorously with antiseptics. However, mild antiseptic washes, depending upon alcohol, glycerine, eucalyptol and thymol for their effect are often of great service. In addition, silver salts, especially argyrol, are often useful in the throat, ear, and eye.

The mucus membrane of female genital tract also can not be treated very safely with powerful antiseptics. However, a 1-2,000 cyanide of mercury solution can be used with safety, which must in some measure at least limit the number of pathogenic organisms present, if used repeatedly.

Dishes which have been used by the patient should be either boiled or disinfected by chemical solutions, when they can be washed as ordinarily done.

Dry sweeping in a room occupied by a patient ill with a communicable disease should not be allowed; the floor can be wiped up with cloths wrung out of antiseptic solution; or in some cases sweeping allowed if liberal quantities of sweeping powders are used which should of course be carefully taken up each time and

Digitized by Google

burned. Food or drink which has become infected should be burned, or disinfected and buried.

Attendants, nurses, or physicians after rendering any attention to the patient, and especially before partaking of food should always clean and disinfect their hands. Instead of using sublimate or any form of carbolic solution for this purpose, I use cyanide of mercury 1-1,000. If it were not quite such a powerful antiseptic, the fact that it does not harden and crack the skin, making it all the more difficult to clean and disinfect, would seem to make it preferable in spite of its somewhat greater expense. The importance of wearing a gown when in attendance upon a case of communicable disease should not be forgotten; especially cases which have not proper attention.

Bedding which becomes contaminated by secretions from the patient should be soaked in 2½ per cent. carbolic or 1 per cent. cresol solution, for one or two hours, and then boiled in soap suds which has had ¼ of 1 per cent. of common soda added. In case this treatment would injure the fabric and it is too expensive to burn, it should be treated by formaldehyde gas or steam.

After the death or recovery of the patient, if all of the foregoing procedures and precautions have been carried out, little remains to be done in addition to a thorough cleansing and airing of the room, except in cases of smallpox, chickenpox, and scarlet fever. After the recovery of a patient from any of these diseases, the entire body of both patient and attendant should be given a bath of soap and water, followed by 75 per cent. alcohol or other antiseptic solution, teeth cleaned and throat gargled. Hair, finger and toe nails should not be forgotten, and clothing that you know is clean and free from infection put on.

In cases where it has been impossible to successfully isolate or carry out proper methods of disinfection during the course of a communicable disease such cleansing, renovating and disinfecting as in the opinion of health officer is necessary should be carried out.

The destruction of inexpensive articles and such as are especially liable to the contamination, the exposure of the room to light and air, thorough scrubbing with soap or soap powders and water of all woodwork, floors and furniture, together with the repainting

Digitized by Google

of the woodwork and repapering of the walls and when necessary the disinfection by washing of woodwork, floors, and furniture with 1-1,000 sublimate solution are probably the most effective methods of rendering the infected room or rooms safe for occupancy.

However, when a house contains a lot of upholstered furniture, carpets, bedding, clothing, and so forth, which you feel quite certain is more or less infected, and which it is impracticable to destroy or disinfect by steam or gas at a disinfecting chamber, or you are uncertain as to the amount of cleansing and renovation you are going to be able to get done, formaldehyde gas fumigation should be resorted to. The essentials of this procedure are tightly sealed rooms, the presence of a temperature of at least 60 degrees, the required amount of gas, and the required amount of time, being sure to err if at all on the side of excess as to amount of gas and time of exposure, and arranging things in the house so that they may be exposed to the gas as much as possible. After thus fumigating, I get all the cleansing and renovating done that I can. When I have a case which it has been impossible to provide with proper care and attention, and I feel that they need a thorough fumigation, I select the tightest room in the house, place therein a change of clothes for each member of the household, wash bowls, towels, etc., seal up and fumigate. The next morning each member of the household takes his clean up, gets into his fumigated clothing, and goes out. We then seal up the entire house and fumigate again. If it is warm weather, they sleep in the barn or on the porch and leave the house sealed at least 10 or 12 hours. In cold weather it is sometimes possible to divide the house, disinfecting one part one day and the other the next. In any event I try to arrange so as to have exposure to the gas more than the required amount of time, if possible. I also have a portable fumigating cabinet which I sometimes use when there is no suitable room in the house in which to disinfect the clothing which the inmates are to wear when they go out.

In the event of a fatal termination of a case of communicable disease the disinfection of the dead body should not be forgotten, after closing the orifices with cotton. The body should be wrapped in sheets wrung out of 1-500 sublimate solution, placed in a tight coffin and immediately and permanently closed.

Digitized by Google

No one factor is as important in the successful isolation and care of a case of communicable disease as the attendant or attendants who are to actually carry out in detail the various processes necessary for this isolation and care. Members of the family upon whom this duty ordinarily devolves are (if not woefully incompetent) ordinarily so overburdened by household cares that it is simply impossible to give the patient the care he or she requires, to say nothing of attending to those details necessary for the protection of other members of the household and the community.

Section 21c of the Public Health Law provides that each health officer shall have power to employ such number of public health nurses as in his judgment may seem necessary for the visitation of the sick who may be unable otherwise to secure adequate care, the instruction of members of households in which there is a sick person, and to such other duties as to him seem appropriate. * * *

"Within the limits of the appropriation therefor made by the city, town, or village." I have transposed this section of the law some and left out some of it, but have given the gist of it. Now some way should be devised to make the average board see the desirability of making this appropriation or the last clause of this section of the law just read stricken out, and health officers given power within reasonable limits fixed by the State law to employ nurses for all sick people, especially those ill with communicable diseases who cannot otherwise secure adequate care.

Until we have accomplished this we will still in a great many cases have to quarantine the whole family, and when the disease has burned out, fumigate the house and clean up the best we can such members of the family who have not died.

MR. HORTON — The remainder of the program will probably be very brief. The papers themselves will be presented first, and the discussion will follow. Dr. Clark will now present the second paper on this first subject, which I am sure will be found very instructive.

Digitized by Google

ISOLATION AND DISINFECTION DURING AND AFTER COMMUNICABLE DISEASE

EDWARD CLARK, M. D.
State Sanitary Supervisor, District O

The topic assigned me for discussion is such an important one that to treat it in extenso one must needs write a volume. It is therefore manifestly impossible for me in the few minutes at my disposal to do aught else than to touch briefly on the salient points in "Isolation and Disinfection During and After Communicable Disease."

I am going to imitate the preachers and take a text for this short paper, and I invite your attention to paragraph 7 of the supplemental Rules and Regulations in regard to Disinfection, chapter II, of the Sanitary Code of this State which reads as follows:

"A communicable disease is an infectious disease the inciting agents of which may, under usual conditions, be transmitted from those affected with the disease, or from those otherwise harboring these agents to others, with the incitement of the disease in fresh cases as a result. Since disease is not a thing but a process, a reaction of the body to injurious agencies, it is evident that disease cannot actually be transmitted or communicated. What, however, is frequently communicated in infectious disease, is the inciting agent, whether such agent be a representative of the bacteria, yeast, moulds, protozoa or other minute organisms. If this be clearly understood the now sanctioned usage of the word 'communicable' in relation to disease serves in an important way to center attention upon that factor in these diseases, namely, the definite transmissible infective material, which is largely subject to control through the principles of hygiene and sanitation and the ministrations of health officials."

If we always bear in mind the thoughts contained in this quotation it is clearly evident that all of our efforts in isolation, disinfection, cleansing and fumigation, during and after the existence of communicable disease, should be directed exclusively

Digitized by Google

to the destruction of, and preventing the dissemination of the inciting agent or material which has produced the disease, and which will produce it in others. In many forms of communicable disease this is not so formidable a task as it was in the days when our knowledge of the inciting agent of the disease and its method of transmission were very meagre and did not rest on an exact and true scientific basis as is the case to-day. This is notably true of typhoid fever, pulmonary tuberculosis, diphtheria, dysentery, cholera, malarial diseases, yellow fever, typhus fever and some others, in all of which we have exact scientific knowledge of the inciting agent and its method of transmission. It is not true, however, of measles, scarlet fever, mumps, whooping cough, smallpox, chickenpox and anterior poliomyelitis, in none of which has the inciting agent been isolated and identified, and its exact mode of transmission defined. An accidental discovery taught us that successful vaccination will render a person immune to the inciting agent of smallpox, notwithstanding the fact that we do not know what the agent is. In this last mentioned group of diseases our work in checking and controlling their spread is hampered in proportion to our lack of knowledge concerning their exact cause and its method of transmission. In all of our efforts then to check the spread of communicable disease, let us remember the one thing that is absolutely desirable and essential is the destruction of the inciting agent, or disease producing pathogenic organisms coming from the patient. To get the best results we must start this task simultaneously with the onset of the disease, or if possible before. The concensus of opinion today among the best authorities is that most communicable diseases, especially the exanthemata, are most infectious and contagious in the early stages of the disease, and largely from the secretions coming from the nose and throat. I am satisfied that the reason why an epidemic of measles is so hard to control by quarantine measures, is because the mischief is done before a diagnosis is made, or before the eruption shows itself. We should, therefore, utilize all of our efforts for the destruction of the inciting agent during the illness of the patient rather than during convalescence. We should begin this work

Digitized by Google

early and keep everlastingly at it, for here more than most anywhere else, eternal vigilance is the price of success. If proper precautions are taken from the very onset of the disease to properly disinfect and render inert all discharges of every kind coming from the patient as soon as they are voided, disinfect and sterilize the patient's clothing and bedding frequently, do the same with all dishes, towels and utensils of every kind used in the sick room, the attendant's clothing and person, particularly the hands, and the door knobs, and the portions of the wall and woodwork of the room in their close proximity, we will by the time convalescence is established have done the major part of the work, and the small amount of cleansing, disinfecting and fumigating that we may do after the patient's recovery will be necessary only as a secondary precaution in order that no infecting agent may possibly escape our vigilance.

Given a case then of communicable disease, how shall we handle it with the least possible danger to others, and prevent its spread? First of all, pick out a room that is best adapted for purposes of isolation, remove from it all carpets, rugs, draperies, hangings, etc., leave nothing in it except what is absolutely necessary to the proper care and comfort of the patient and attendant, have the woodwork and floors of the room thoroughly scrubbed with hot soap suds before the patient is put into it, and have it likewise scrubbed just as often as possible after he gets into it, for too much importance cannot be attached to cleaning and scrubbing as a disinfecting agent. Choose a room, if possible, on the sunny side of the house with plenty of windows so that the maximum of fresh air and sunlight can be secured. In the fly season see that all windows and the door leading into the room are properly screened, ever bearing in mind the pernicious part that the house fly plays as a disease carrier, have a fly trap or swatter in the room for the purpose of trapping or killing the stray flies that are bound to gain entrance. The room should contain a commode and some form of gas or oil stove for boiling water for sterilizing dishes and eating utensils before being taken out of the room. In cases of typhoid fever, properly handled, I do not think that the isolation of the patient need be

Digitized by Google

so absolute as in cases of diphtheria and the exanthematous diseases.

For cleansing, disinfecting, sterilizing and fumigating we can call to our aid many agencies both physical and chemical. Among physical agents we can utilize heat, sunlight and fresh air. Heat can be applied in the form of burning, boiling and steaming. We must not fail to recognize the immensely important role that sunlight and fresh air play as disinfecting agents. Get all you can and use all you can get.

The cheapest and most practicable method for the destruction of infected material and articles of clothing and bedding, which may be infected, is by burning, provided the materials are not too costly to be subjected to this process. Discharges from the nose and throat of infected persons should be received on soft cloths or paper which should be immediately burned. When it is not practicable to burn infected articles, they may be subjected to prolonged boiling and then laundered. Live steam propelled into a room is a powerful disinfectant, but this is not a feasible measure in the ordinary household. Many municipalities have established steam sterilizing stations where fabrics which heat and moisture do not injure may be thoroughly cleaned and rendered free from infection.

The value of chemical solutions for disinfection purposes depends entirely upon their strength and the length of time they are employed. In preparing these solutions many rely too much upon guess work. They should be prepared according to the now well-established rules laid down in every reliable work upon preventive medicine, and they must be allowed to remain in contact with the pathogenic organisms long enough to absolutely destroy them. They should always be prepared by the medical attendant or attendant under his directions.

In disinfecting bowel discharges, sputum and vomited matters the disinfecting solution must be thoroughly mixed with the infected material, and in disinfecting urine it must be thoroughly stirred into it; this is especially important in typhoid cases where the urine should be considered both by nurses and physicians as almost a pure culture of typhoid bacilli, which must be disinfected as soon as voided. The sputum of patients, if it

Digitized by Google

be abundant, should preferably be received into paper sputum cups which should be immediately burned, for the thorough disinfection of sputum is rather difficult for the reason that the infective organisms are frequently deeply imbedded in tenacious mucus. Mercuric bichloride is not so efficient as a 5 per cent. solution of carbolic acid for disinfection of sputum.

I have neither time nor inclination to enumerate the many chemical substances that are recommended and used for disinfection — many of them are good and some of them are no good. There are many preparations on the market widely advertised as valuable disinfectants. Then there are the deodorants which only serve to mask one bad odor by substituting another; they destroy smells while disinfectants destroy germs. They have little or no value, and it is wise to avoid using them. We should stick to the few agents that we know are valuable in this connection, and whose use is fairly well understood by the intelligent laity as well as by the profession. Among these I shall mention only carbolic acid, mercuric bichloride, lime and alcohol, for these with sunlight, fresh air, dryness and cleanliness produced by the copious and frequent use of soap and water plus a goodly amount of "elbow grease," will be all that is necessary to get good results. Rosenau, than whom I know no better authority, says, "In nature many forces are constantly at work to destroy infection and thereby limit the spread of communicable diseases. It is the duty of the sanitarian to encourage the use of these natural disinfecting agencies." Sunlight is a great destroyer of germ life. Few microbes, especially the pathogenic ones, can live in the direct bright sunlight many hours. Dryness is another natural condition that is destructive to many of the minute forms of life with which we have to contend. The combination of dryness and sunlight is quite as good, if not better, than the ordinary fumigating processes which are commonly used in practical disinfection against surface contamination.

Dryness, sunlight and cleanliness are the keynotes of sanitation in the modern acceptation of the term.

Inasmuch as Dr. Bullard, who has preceded me, has given you full information regarding the technical methods to be followed in cleansing and disinfecting after recovery from communicable disease, I will not go into that phase of the subject, as my remarks

Digitized by Google

would necessarily be a repetition of what he has already told you. Copious rules and regulations for this work are also to be found in the text books and especially in the Sanitary Code promulgated by the Public Health Council of this State.

MR. HORTON — I regret that our meeting has been so rushed and it will be necessary to hasten along with our program to present the remaining papers first; then we will revert to the discussion. The meeting is yours this morning and it is essentially and primarily for the purposes of free discussion, especially from the floor.

Now the next subject on our program is "Farm Sanitation," one of the most important features in rural sanitation and rural health work. The papers will be presented in reverse order from that stated on the program; and if Dr. Genung is present and will please step forward we shall be pleased to listen to him.

Digitized by Google

FARM SANITATION

H. GENUNG, M.D.

Health Officer, Freeville, N. Y.

When approached by your director, Mr. Winslow, and asked if I would furnish a paper on Farm Sanitation at the Sanitary Conference I answered that I was very busy and would much prefer that some other Health Officer who had more time at his disposal and would furnish a much better paper, should have this most important subject. But failing to get excused, I will endeavor to touch upon only a few of the things which I consider the most vital particulars in farm sanitation, which is in these days, so vital to us all, as the city does not, by any means, maintain itself separately from the country.

Not only is the city dependent upon the country for practically its entire food and milk supply, but nearly every city depends upon some pond or stream or small lake in the country as the source of its water supply. Also in the days of automobiles and easy access to distant friends in the country, there is scarcely a family in the city which does not plan to spend some portion of its time in summer with some friend or relative in the country.

This all goes to show how very important then is farm sanitation or rural hygiene, and only those who are actually engaged in these lines of work can realize how hard a task it is to better the conditions in the country.

In the city they have their well-paid officers to carry on this work and much good has been accomplished by them. But in the country this must be done by very poorly paid officers who must of necessity work under all kinds of difficulties and handicaps. But nevertheless, we are undertaking the task and are beginning to get some results along the lines of improved sanitation. For instance, we are slowly educating the people to understand how diseases are contracted and how carried or conveyed from sick persons to well persons, and have shown the people that diseases are not only conveyed to healthy persons by contact or close proximity to the sick persons, but in many cases diseases are

Digitized by Google

conveyed by some of the following means, either, first, through drinking water; or second, through the milk and food supply; or third, carried by means of flies and mosquitoes.

Now these are I believe the most essential things, taken together with plenty of fresh air and personal cleanliness, which constitute the principal field of the rural health officer's activities. I do not care to discuss in my short paper more than these three things which I consider so important.

First, the drinking water, which in the average well is to be looked upon with much suspicion. The very construction of the average country well is a good model for a cesspool. In fact I know of no better way to construct a cesspool than to follow the construction of the old-fashioned stoned-up well. It is up to us as health officers and physicians to point out to the people that these wells are not safe with their open tops and loose stones to allow the free passage of surface water which is nearly always polluted by contact with the polluted soil of the surface. It is up to us to urge upon the people the importance of either sealing these wells up inside with brick and mortar or some material suitable to accomplish the same purpose and make either a tight cement or stone top a little above the surrounding ground so that the waste water and the surface water drains away from and not into the well; or by driving or drilling a pipe into the ground at a sufficient depth to filter the water through sand or gravel and thus avoid contamination. Some of the farms are supplied with splendid springs which can be utilized for a water supply, providing always the spring is suitably protected from sources of pollution from animals and all other means of surface pollution. Another important thing is to see that the well is properly located and at a suitable distance from the privy vault or where it will not get the drainage of barnyard or other buildings where animals are kept, and that no decomposing animal or vegetable matter can possibly filter through into the well.

Second, the milk, which I feel is very difficult to handle and keep free from bacterial and other infection. Much has been accomplished in the last few years in this respect. Much has been done by the city boards of health sending their agents into the country from which they obtain their milk supply. They have done much,

Digitized by Google

but a large amount of the milk is still produced too dirty for use. This is also up to us as health officers and physicians to do all in our power to bring about better conditions here by urging, so far as possible, the necessity of thoroughly cleaning the barns and barnyards where the cows are kept, whitewashing the stables as often as is needed, bedding the cows with plenty of clean litter, properly ventilating the stable, giving plenty of fresh air at all times, also plenty of sunlight, and seeing that the men who do the milking are reasonably clean, and that under no circumstances should any one who is sick or who has recently been sick be allowed to come in contact with the milk. Milking should be done in a pail with as small an opening as possible. Better still, the top should be covered with a cloth to keep out all dirt possible. If produced under these conditions and properly cooled of its animal heat and kept clean until sold to the consumer, we will have done much to lessen sickness and suffering, besides saving the lives of countless babies whose lives are still being cut off by bad milk as food which is not produced under sanitary conditions.

My third subject, flies and mosquitoes, would have a very limited existence if all the conditions which I have suggested in regard to water and milk were properly carried out. If the farm is properly drained around the buildings and all stagnant pools drained, all open barrels, etc., containing rain water looked after, the mosquitoes would soon go out of business and cease to exist. And if all the stables were kept clean, manure of every kind was kept drawn out upon the fields as it should be, and the toilets connected with the farm home were properly constructed and cared for, the flies would also diminish very rapidly.

The above three points are by no means all, but it seems to me that they cover in their respective fields the most important points in Farm Sanitation.

MR. HORTON — This is a very important subject, and there are others who I hope will later have a word to say in regard to it. Furthermore it is very possible that there may be differences of opinion concerning farm sanitation. In fact in regard to the well and the cesspool, and also one or two other questions referred to by the previous speaker, I regret that I have not myself the opportunity of "butting" into it as it were. It is a subject upon which a great deal could be said, and the carrying out of which is extremely important. But we have other speakers to be heard, and it is my pleasure to introduce Dr. H. H. Crum, one of our Sanitary Supervisors.

Digitized by Google

FARM HYGIENE

H. H. CRUM, M. D.

Sanitary Supervisor, Ithaca, N. Y.

Farm Hygiene has to do with healthfulness on the farm. The farm surely ought to be the ideal place from a health view point. However, we know that the city is the safer place. Why is this so?

The factors that enter into health conditions on the farm are really the same factors that enter into health conditions in the villages and cities. These are: water supply, sewage disposal, food which includes milk, and ventilation. Often, I may say generally, it is more difficult to control these factors on the farm than in the urban places.

There is great carelessness on farms in the care of the water supply. Many are dependent on dug wells. A dug well may be a good well, but it should have care. It should be thoroughly protected from surface water. This means that the covering should be water-tight and there should be water-tight walls around the well extending down far enough to prevent surface water from getting in. Driven wells are easier to care for, but even these should be protected at the top unless very deep. Drilled wells should have the same care as the dug well.

The drainage of the barn, outbuildings, chickens, hogs, not to mention cesspools, should be considered in relation to the well. The fact that a family has used a certain well for years without trouble is not proof that the water is pure. The family may have become immune to the pollution in this water. Later, some member of this family may use other water really not as bad but different, and get severe results.

Every farmer gets to feel that his well is all right. Often he cannot see the danger that is plain to one not financially interested. You as health officers should point out this where proper.

Sewage disposal is an immense problem on the farm. It is not immense because of the difficulty of disposing of sewage but because every farm has to have a separate system. Thousands of farms are supplied with outside privies that are dangerous. They

Digitized by Google

are not necessarily dangerous because they are outside, but because they are not properly built, cared for or cleaned. Often they are in the wrong location. When there is not a proper water supply the outside closet will persist, but it should be so built that it can be readily cleaned; so that flies cannot gain access, so that its drainage cannot possibly get to the well. The manner of building depends on the soil to some extent. If the soil is sandy or loamy the earth closet may be used but usually this closet is a constant nuisance for it is seldom cleaned and too often not protected from flies. Such a closet should never be on or in the rock for the sewage will follow the seams in the rock for long distances and pollute water supplies in remote places. Where there is rock or limestone formation cement vaults should be provided and cleaned often enough to prevent nuisance.

Flies should not be allowed in an outside closet. The closet should be screened. The seats should be fitted with tight covers that will close themselves. Lime, plaster or road dust should be freely used and the vault should have a ventilator through the roof.

Some farmers are building closets close to the house or in the side of the house so that the family does not have to go out of doors. The vault is water tight and either chemicals are used or the vault is cleaned so often that a nuisance does not occur. Neglect in these closets will cause trouble very soon.

The pail or bucket system is good if the closet is cleaned often enough. However, it must be remembered that it is a difficult task to get hired help to clean closets in the country. It is an expensive proposition in the villages. Usually the farmer has to do this work himself. The help will not. So a system that often requires care will prove unsatisfactory. There are cases where the dry system must be used, but where possible a tank system should be encouraged. It is quite possible to have a small tank system where there is not a regular water supply. A barrel may serve for the tank and the sink water will usually be sufficient to keep the level proper in the tank. Of course a vent will be necessary through the roof or into the chimney if close to the house, and the outlet must convey the effluent or overflow into subsurface tile. If the effluent is not put into sufficient subsurface tile, fermentation will occur and a nuisance result.

Digitized by Google

Where there is a water system possible a regular septic tank should be encouraged. The inside closets are available. Where cesspools are used the water supply is apt to get polluted. Also, where the septic tank is used the overflow must be cared for in some subsurface drainage system or a nuisance is bound to occur.

Each case is a problem by itself and the solution can be worked out in each instance if a little care is taken and common sense is used.

Garbage disposal is not a problem except the keeping of the cans and swill barrels clean so that flies will not breed.

As regards food on the farm, great care should be taken to keep flies away. Flies will breed about farm premises. The farmer cannot screen his barnyard, but his house can be screened and the privy can be screened. All should know that it is human refuse that is dangerous to other humans. If we could see to it that every human being's excrement including the discharges from mucus membranes were always properly cared for we would need to worry no longer.

Ventilation of country homes, especially the bedrooms, is often very bad. I have been in many country houses where the bedroom windows showed plainly that they were practically never opened. That more serious results do not occur is probably because the daily life in the country is such that there is compensation for the unhygienic habits. If the ordinary rules of good hygiene were not so often ignored in the country illness there would be rare. But when we consider how often the drinking water is neglected; how the closets and drains care for themselves; how poor are the bathing facilities; how often we find farmers sleeping in the underclothes worn by day in rooms with but one window raised an inch because of the fear of the night air, the wonder is — why is there not more illness?

However, these defects in hygienic living cannot all be corrected at once. We must be patient and tactful. We can, as opportunity offers, point out improvements. We can point out good places and comment favorably on such places. We should know what to advise. Every health officer should be in a position to properly advise about hygienic conditions. You will be asked and you will be expected to know. The results of your advice will go to make your reputation not only in hygiene but in medicine.

Digitized by Google

I have not considered the relationship between the hygienic conditions in the country and safe conditions in town as I am sure others will discuss the subject, but I may now say that every epidemic we have had in my city in twelve years has been due to unhygienic and insanitary conditions in the country around about.

I expected to have, and it should have been here this morning, an exhibit from Cornell University of a small septic tank for the farm. I do not know whether Professor Ogden or Mr. Horton has located it, but any way it is along the lines of furnishing at very little cost a septic tank which is sufficient for one family in the country without a water supply. Where there is a water system, it is possible to erect a septic tank, and that should be encouraged.

Digitized by Google

THE WORK AND FACILITIES OF THE BACTERIAL LABORATORY

AUGUSTUS B. WADSWORTH, M.D.

Director of Laboratories, Albany, N. Y.

From the smallest beginning the laboratory has become an essential factor in any campaign waged against disease, whether this is directed to the care of individual cases at the bedside or to the prevention of the spread of communicable disease in communities throughout a state or nation. In the diagnosis, prevention, and care of such diseases as diphtheria, tuberculosis, malaria, syphilis, rabies, meningitis, typhoid and paratyphoid fever laboratory facilities are essential. These diseases cannot otherwise be properly controlled. Not only in these, but in many other diseases of a communicable or infectious nature is the aid of the laboratory sought. All this has taken place within the last two decades. The older physicians recall the day when they had no laboratory; the younger men cannot now proceed without one. From an expensive luxury, supported by a few of the larger universities, chiefly for purposes of investigation and study, the laboratory has thus become a necessity of acknowledged practical value.

In this rapid development of the laboratory two phases of the work are recognized. One of these is the outgrowth of the other. Research and investigation in the laboratory have formulated and developed the practical procedure which constitutes its routine. Although the university, hospital, municipal and State laboratories differ to some extent in the scope and purpose of their work, these differences are not fundamental, chiefly those of degree or character of the routine work as contrasted with research. In no instance can routine laboratory work be wholly divorced from research and investigation. The spirit of research elevates the routine work to the highest plane of efficiency. Without this stimulus routine deteriorates. These fundamental relations are too often overlooked by those responsible for the support and direction of laboratories in their zeal to secure a *quid pro quo*, especially when results are measured according to commercial standards: and this is ultimately and invariably to their cost. However,

Digitized by Google

these problems do not and can not be expected to appeal so directly to those whose work is outside the laboratory. What the laboratory can or actually does do for them, and what it might do with adequate facilities and support is very naturally of more immediate interest.

Three distinct fields of laboratory activity have been established in the State Laboratory at Albany; the examination of public water supplies; the examination and diagnosis of specimens from cases of diphtheria, tuberculosis, and typhoid fever; the preparation and distribution of the antitoxins of diphtheria and tetanus, typhoid vaccine and silver nitrate solution for the treatment of ophthalmia, which are recognized to be of definite value in the prevention and the cure of these diseases.

All phases of the work have recently undergone complete reorganization. The laboratory no longer sends collectors to take samples from taps or reservoirs of different cities, but the laboratory is now prepared to send to the health officers containers for the taking of samples of water, after he has made a field inspection. This relates not only to public supplies but to any supplies, public or private, which, in the opinion of the health officer, are liable to affect the public health. In other words, the routine examination of water supplies has been abandoned for the purpose of insuring adequate inspection of the sources of the water at the time the samples are taken. In the routine examination of samples in the past no inspection was made. In the future health officers will be required to inspect the premises and all possible sources of pollution before the samples are taken. He will be required to submit to the sanitary supervisor of his district his reasons for requiring the laboratory analysis of the sample of water. Thus, the sanitary supervisor will be brought into close touch with the problems in his district.

On the request of the health officer, after he has made a careful inspection, containers for samples will be sent to him by express collect, and they will be sent to the laboratory by express prepaid, and analyzed. The reports will be sent to the health officers, as in the past, but in each instance records of his inspection will be on file and he will know the conditions at the source. Thus, it is hoped that the results of the analyses will be more intelligently

Digitized by Google

and significantly interpreted until funds to provide sanitary experts for this work are appropriated by the Legislature. Without this inspection at the source the laboratory analysis means little or nothing. It determines simply the presence or absence of pollution in the water, whereas the inspection determines the nature and the source of this pollution, and thus the significance of its presence or absence.

Many of the water supplies in the State have been carefully investigated by the Division of Sanitary Engineering, but owing to inadequate appropriations these investigations have not been continued after they have once been made. In future it is planned to have the laboratory support the sanitary engineer by making the necessary examination in the laboratory and report to him the results of the analyses so that he can interpret them in the light of the knowledge of his previous inspections. In this way it will be possible to bring the department into close and intelligent touch with all those supplies which have been adequately investigated, and it will also be possible in the future to keep in touch with the supplies which will from time to time be completely investigated.

This, I think, places the laboratory examination of water in the best position possible under the circumstances. There are no adequate appropriations for frequent and extended inspections of the water supplies. It would, obviously, be better to have experts go out into the field and make these inspections, but lacking experts for this purpose the department must turn to the health officers and sanitary supervisors to bring the inspections to the highest possible point of efficiency. But quite apart from this, these inspections will bring the health officers and sanitary supervisors into much closer touch with a very important part of their responsibilities — the water supply of their community.

It is, perhaps, scarcely necessary for me to go into the details of the reorganization in the methods of preparing the antitoxins in the laboratory. These are really technical procedures in which you can have but a limited interest. Let it suffice to note in passing that new methods have been adopted whereby it is hoped to increase the potency and the purity of the serum, and that already it is possible to see the progress that these changes in the methods have effected. The refined antitoxin which is now put out is

Digitized by Google

accurately standardized and contains a greater number of units in proportion to the amount of proteid material in solution.

The list of therapeutic and preventive preparations which are put up in the laboratory and distributed to health officers and physicians in the State also includes the vaccine of the bacillus typhosus and 1 per cent silver nitrate solution for the prevention of ophthalmia neonatorum.

During the past year the vaccine of the bacillus typhosus has been put up in single doses and in vials containing five or ten doses, each dose being one cubic centimeter in which 1,000,000,000 of the bacilli are suspended. Three doses of this vaccine are given at intervals of about one week. The first dose is usually 500,000,000 bacilli instead of 1,000,000,000, but it is considered more convenient to have the doses uniform, allowing physicians to make this discrimination in the administration of the first dose. The demand for this vaccine has proved so much greater than was expected that the supply was quickly exhausted. There is always some delay in replenishing a stock of this vaccine because three to four weeks are required for its preparation. In future the demand will be more uniform and this can be avoided. Physicians should thus be able to secure for the immunization of persons, such as nurses and attendants, liable to be exposed to typhoid infection, the doses that they need without the inconvenience or delay. This procedure for the prevention of typhoid fever is now recognized universally to be a simple and effective one, without danger to the person inoculated. The few instances in which accidents have occurred are proportionately small in number. They are usually due to some fault, either in the preparation of the vaccine, as when too fresh a product is used giving a severe reaction, or in the choice of the time for the inoculation of the patient. Tuberculous subjects who have been inoculated when they are not in a quiescent state have been, occasionally, affected by the inoculation, but this has usually proved evanescent.

Owing to the large number of complaints about the leakage of the old form of outfit for distributing the silver nitrate solution a new outfit has been substituted. This outfit is also used by the New York City Health Department, so that the manner of distributing this solution is now uniform throughout the State. These

Digitized by Google

outfits consist of a small wooden box containing two ampules made of beeswax. Each ampule contains a sufficient amount of silver nitrate solution for the treatment of one case. These wax ampules should be punctured with a needle and the silver nitrate solution dropped into the eye, following all the directions on the slip sent with each outfit. I am convinced that physicians and health officers will welcome this change.

All these supplies used in the prevention or cure of diphtheria, tetanus, typhoid fever, and ophthalmia neonatorum, together with the outfits for mailing specimens for diagnosis, are sent on requisitions filed by health officers and sanitary supervisors. In localities where the health officers are not accessible, or where the districts are too large for him conveniently to supply all the physicians, supply stations will be established. From the health officers and sanitary supervisors and supply stations, physicians will be able to secure these supplies free, receipting for them on special blanks. The requisition blanks and receipt blanks have been completely revised. They will greatly facilitate the exchange with the laboratory, and also enable the laboratory to keep accurate account of the supplies sent out to the different stations.

The advisability of establishing district or central supply stations in the county laboratories where facilities for the storage of these preparations and outfits are at hand is under consideration, and doubtless will be carried out in the near future. The agreement to be drawn with all supply stations will require the storage in an ice box of the antitoxins and other preparations which deteriorate when they are not kept at low temperatures. Similarly a deposit of 25 cents for each syringe will be required of physicians who prefer to administer the antitoxin in this form. This is in no sense an attempt to sell the antitoxin, but is simply a deposit to insure the safe return of the syringe. Unclaimed deposits will defray the postage and express charges in forwarding to the laboratory syringes which have been used and returned to the station. Health officers and physicians throughout the State will, I am sure, find that these measures will greatly facilitate the distribution of these valuable aids to them in their practice, especially if all requests for laboratory supplies are addressed directly to the laboratory.

Digitized by Google

The necessity of securing accurate control over the quarantine of such a communicable disease as diphtheria will require the prompt use of laboratory facilities in determining the persistence of diphtheria bacilli in the throats of persons who have recovered from the disease but are a menace to others coming in personal contact with them. These outfits for the examination of specimens will, therefore, be in greater demand and must also be accessible.

The diagnostic work has also undergone a complete revision. Hitherto cultures from cases of diphtheria and sputum from cases of tuberculosis and blood from cases of suspected typhoid fever have been sent to the laboratory and examined and reported to the health officers. The reporting of diphtheria examinations is urgent. In order to expedite this the laboratory has undertaken the frequent collection of mails and thus has shortened the time of reporting the examination of these specimens. Mail is collected in the morning and twice during the night so that the specimens should reach Albany the night of the day they are mailed. Many cultures are two and three days in transit when they ought not to have taken more than 24 hours. This must be due to the failure of physicians to record accurately the day on which the cultures were taken or to their failure to mail the culture immediately after it was taken.

For the convenience of health officers and physicians primary cultures are reported by telegraph to both physician and health officer whenever these are found to contain diphtheria bacilli, unless the diagnosis has been made and antitoxin already administered and a report by mail requested. Since these telegrams are of so much importance in guarding against costly delay and since they have so rarely proved unnecessary, they are sent charges collect. Only one objection to the payment of these charges has been received.

Many cultures of diphtheria have proved positive for a long period after patients have recovered from the disease, and this has also been true of cultures from carriers or persons who never have developed signs of infection that the laboratory has undertaken the examination of a number of these cultures by the most accurate methods of identification for purposes of comparison and control.

Digitized by Google

In this procedure the culture is first isolated and grown free from all other organisms, it is then transferred into different media to observe the difference in the biological characters; after these have been determined it is injected into animals to test the pathogenicity and toxicity. The toxicity and the pathogenicity do not always, as you know, parallel one the other. Finally, it has been found necessary to carry many of these cultures on to the most accurate of all the methods of identification for the bacilli of this diphtheria group, namely, the toxin and antitoxin neutralization.

The toxin produced by these cultures and standard diphtheria toxin are titrated against a standardized antitoxin and in this way compared with the true diphtheria toxin. The results of these examinations are not yet complete, but in so far as can be determined from the observation at present the morphological diagnosis is reasonably accurate and reliable, and particularly if the persons carrying in the secretions of their noses and throats these diphtheria-like bacilli give the history of having recovered from active processes of infection. Health officers and physicians receiving positive reports for an unduly long period after recovery from diphtheria must, therefore, reassure their patients and educate them to a realization of the fact that although they themselves may not give any symptomatic manifestations of the disease, foci, nevertheless, persist in the mucous membrane where these dangerous parasites are harbored. Thus it is that the diagnosis, treatment and prevention of diphtheria are accurately controlled by modern laboratory methods.

Other communicable diseases are just as dependent on the laboratory for an accurate diagnosis, although laboratory methods may not figure quite so prominently in the prevention or cure of the disease. In the diagnosis of no disease is the result of the examination in the laboratory more satisfactory and definite than in tuberculosis. The presence of tubercle bacilli in the sputum may be overlooked at a single examination, but if these examinations are repeated at frequent intervals, or during exacerbation of the disease they will sooner or later be found. As soon as the tubercle bacillus is found in sputum there is no longer any question of the diagnosis. No more definite satisfactory results could possibly be expected of any work. Since the early recognition of

Digitized by Google

tuberculous infection determines more than any other factor the chances of the subject's recovery it is scarcely necessary to urge upon you the value of taking advantage of this laboratory aid in all cases suspected of being tuberculous, and in the event of not receiving confirmation of your suspicions to continue your efforts to secure this confirmation by sending in specimens for examination.

The agglutination reaction of the typhoid bacillus, generally known as the Widal reaction, is another phase of the diagnostic work of the laboratory. It is of the greatest value in the diagnosis after the first days of the disease. This diagnosis is an accurate one, enabling physicians to distinguish typhoid fever from other diseases simulating it and thus take the precautions necessary to prevent the spread of this disease in the community. But the bacilli of typhoid fever in cases which have albuminuria are excreted in the urine or persist in the feces for astonishingly long periods of time after recovery. The severity of the infection, the completeness of recovery, the presence or absence of complications do not suggest in any way whether the bacilli will disappear early or late during convalescence. The examination of the feces for the bacillus typhosus alone determines this fact.

The laboratory methods for the isolation of the bacillus typhosus from feces are not so accurate but that the bacilli may be present in small number and overlooked, owing to the fact that a closely related bacillus resembling it morphologically — the colon bacillus — is always present in greatly predominating numbers. Nevertheless this examination of the feces for the bacillus typhosus will reveal in many instances the persistence of the bacilli after recovery from the disease and also detect "carriers" of this disease, so that the precaution for the disinfection of the discharges from the alimentary tract of these cases may be continued so long as this condition obtains. The importance of this work is, therefore, apparent, and the Legislature has appropriated funds for beginning the work. The outfits for the collection and mailing of specimens from feces of suspected cases are now distributed from the laboratory. The examination, however, takes some days. Although it is often possible to give an early negative report a longer time may be required to send a positive report.

Digitized by Google

A few physicians and health officers have availed themselves of other facilities, such as the examination of blood smears, for the plasmodium malariae. Hitherto these facilities have been only partially organized, doubtless owing to the fact that the demand for them is so limited and funds for extending the work have not been appropriated. The examination of miscellaneous material, such for example as is helpful in the diagnosing different infectious processes of the genital tract or other parts of the body, has not been encouraged in the past. This often requires a large staff and proportionately much more time. Owing to the material being contaminated, the results of these miscellaneous examinations are so frequently unsatisfactory that there is considerable question on their being properly in the province of a State Laboratory and might not be carried out better in laboratories near at hand. However, as the work of the State Laboratory develops and the methods of collecting and transporting material improve, and as physicians become more familiar with the limitations and requirements of laboratory methods, these examinations of material outside the prescribed routine of the laboratory will become more feasible and assume more and more practical value. At present the examination of smears of exudate for the gonococcus may be considered feasible. Although the methods of doing this have not proved altogether reliable the results are nevertheless of confirmatory value to the clinician and thus when properly interpreted definite. In all the diagnostic work the importance of interpreting the results in the light of the clinical story is often overlooked. The new information blanks should be filled out completely in order to facilitate this work in the laboratory.

Without discussing further the possibility of extending the laboratory work along lines which are not as yet clearly defined, there is another field which the laboratory has not undertaken but which most properly comes within its province. The serum diagnosis of syphilis, generally known as the Wassermann reaction, is now essential, not only in the diagnosis of the disease but as a means of determining the effect and progress of treatment also. The methods of testing the blood serum are now so accurately formulated and standardized that there is no longer

Digitized by Google

question of adopting them in the routine of public health laboratory work. Citizens of certain of the larger cities of this State already receive the benefit of this work. There is no reason why others should not share in these privileges. The Commissioner, Dr. Biggs, recognizing fully their importance, has authorized the beginning of these examinations as a special investigation, in the hope that the coming legislature will appropriate funds to carry the work on permanently. This the last legislature was unable to do. On the contrary all the appropriations for the laboratory work had to be curtailed.

The rapid march of specific therapy in the infectious diseases will demand the development and application of the laboratory methods for the diagnosis of the bacterial nature of infectious processes either by cultural isolation and identification or by the serum reaction of immunity. Witness, for example, the requirements for the intelligent use of autogenous bacterial vaccines; not only must the bacterial diagnosis be accurately made but the particular strain inciting the infection must also be isolated, cultivated in pure culture, and made into vaccine for the treatment. So unsatisfactory has the indiscriminate use of bacterial vaccine proved that in the opinion of many clinicians only these autogenous or homologous vaccines can be sanctioned, and only in selected cases of a subacute or chronic nature. It is yet early to estimate the actual values of the several contentions regarding the use of bacterial vaccines, and similarly the practical value of many specific sera may not be considered to be established beyond question, but the essential preliminary to the intelligent use of all these preparations is an accurate bacterial diagnosis which can be secured only from the laboratory. Although these demands upon the laboratory belong to the future, they must, nevertheless, be kept under consideration.

The work and facilities of the laboratory have thus developed rapidly, becoming more and more the essential factor not only in the diagnosis and treatment of patients afflicted with the infectious disease but in the larger problems in the prevention of disease and the protection of the public health. So rapid has this growth in the laboratory work been that the present buildings are totally inadequate. Present conditions are deplorable,

Digitized by Google

They can be remedied only by the appropriation of funds for a new laboratory building, designed and equipped to carry on efficiently and safely this important work. With decent quarters and adequate appropriations the laboratory can serve more and more effectively health officers and physicians throughout the State.

Apart from this, laboratory work could not possibly be carried on under more promising conditions. The Commissioner, Dr. Biggs, and the Administration of the Department are heartily in sympathy with the work, lend every phase of it their support and approval, and familiarize themselves with all the technical details of laboratory work; their suggestion, criticism, and advice are invariably of the greatest value to the staff actively engaged in the work. On this account the staff has a new interest and a new stimulus in its work. They have taken hold of and successfully solved many of the problems of reorganization which confronted the laboratory.

DISCUSSION

MR. HORTON — Gentlemen, the meeting will now be thrown open for discussion. The meeting is yours, and I hope that these papers will be thoroughly discussed.

With reference to the photograph of the members of the Conference which will be taken at the close of the discussion, I have been requested to close the discussion in about ten minutes owing to the lateness of the hour. It is requested that the members of the Department and any members of the Council who are present, and Directors of Divisions, will please take the front seats, the others to be arranged behind them. The meeting is yours and now open for discussion.

DR. J. R. STURTEVANT, Health Officer, town and village of Theresa, Jefferson county, N. Y.— In talking about the milk supply, you did not allude to the manner in which the farmer shall be required to deliver milk to customers in particular. There are too many villages in the State of New York wherein it is delivered in open cans dipped out in receptacles. I wish to know how much power the Health Officer has to dictate the manner in which milk shall be delivered by the farmer to the consumer in villages.

Digitized by Google

MR. HORTON — I do not know just exactly under what heading that is.

DR. STURTEVANT — Under the heading of the first paper.

MR. HORTON — Not being the Director of the Division having control of those things, I do not know exactly how to answer the question. Perhaps Dr. Shaw is here.

DR. CRUM — You do not have to depend upon the local board of health, although local boards may make rules in any municipality not inconsistent with the code. I think that most of you have the new milk code or will have it within a few days. The code grades milk according to certain conditions. Certain grades cannot be sold except in bottles, but I understand that other grades may. Read the law carefully and I think the question will be answered.

DR. F. H. DREYER, Health Officer, town of Crawford, Montgomery, Orange county, N. Y.— I want to speak of a practice that is very prevalent among farmers and other residents, and one that should be condemned very severely. I tell the people of my town not to place fecal matter they get out of their privy vaults and cesspools on their gardens. They do it over and over again. Lettuce and radishes grow in these gardens that persons need to eat raw; and also vegetables that go to market and many people are endangered. That makes a fine hatchery year after year for many cases of typhoid fever. The water washes over them and pollutes the streams and you cannot condemn the practice too severely.

MR. HORTON — That is very wise counsel you gave them, particularly so in regard to the vegetables. There are, of course, many vegetables that are not used raw which, if polluted by any matter taken from a vault or cesspool, might not necessarily be dangerous. The safest thing to do in the disposal of excreta is, however, to bury it. Again with certain crops fecal matter might without much danger be placed on the surface of the ground at the time that the fields are plowed under, but I think it very necessary in all such cases that the material be placed on such fields at a considerable distance from any streams. It should never be deposited anywhere upon the superficial watershed of any water supply. And as to the

Digitized by Google

garden itself, it would be better to exclude it entirely. In fact I have tentatively made up my mind that, generally speaking, there is only one safe place for fecal matter, and that is about two feet under ground remote from any water supply. And I have come to that thorough conviction from my own personal study and observation and practice in the country; from seeing the pollution of water courses due to it.

DR. DREYER — The safest manner I know of is to burn or disinfect it, and that has been done in cities and is going to be done in Middletown, N. Y. They are going to have a disposal plant for their matter there, and the sludge material will be burned and the liquefied matter disinfected and allowed to run away.

MR. HORTON — I am glad to see them so particular in regard to that matter in Middletown. I have had an opportunity, however, to follow a few tests with incinerators, but they were not successful. Possibly what you have in mind in Middletown will be a success. Up to the present time, however, we have not had much success. I have seen no more offensive operations going on than I have seen in certain tests of incinerators carried out by one, probably the most careful and best equipped concerns in this country that deals in this method of disposal. I feel that one of the most difficult things in sanitation, based on actual observations, is to incinerate excretal matter, and before it can be tried out in practice it will have to be carefully studied and worked out.

DR. RALPH WALDO THOMPSON, Health Officer, village of Cornwall and town of New Windsor, Orange County, N. Y.— I want to mention a thing that I have never seen printed, which came home to me, especially, through an error. Many of the evils are carried through sociability. Where the physician is attending a communicable disease, in my judgment, the more business-like he can be, the shorter time he stays, the better will be the rest of the people whom he will see that day. Therefore, I believe that he should not sit down, and, especially, should not sit on the bed. He should not lean against the bed; and, if he has occasion, as he probably will, to examine his patient, he should, before leaving the house, wash and use some alcohol on his hands. But I

Digitized by Google

especially refer to the handshaking and sitting down for a pleasant chat, which is very nice but very dangerous, possibly, to the next family.

DR. PALMER R. BOWDISH, Health Officer of town of Cornwall — In regard to excreta put on the garden, from many municipal sewage disposal plants. With such plants, sewage disposal after exposure to the sun for two or three days is regarded as safe from the transmission of disease germs. And do you not think that it is safer on the surface of the ground than if plowed under?

MR. HORTON — Yes, if it were possible to get the sun rays throughout the entire body of excreta, or as you might say, of every particle exposed to the sunlight, that might be so. But excretal matter put upon the garden is usually not in minute particles or a thin film, but is in masses. If by breaking up the mass so that certain rays, the ultra-violet for instance, can penetrate and thus permit disinfection, then the argument might be tenable. But as a matter of fact this matter is rarely spread out in thin layers or small particles so that the sunlight gets within the mass and on all sides of it, or penetrates into the center. Our ordinary types of bacteria, as you know, are not over 1/10,000 of an inch long; and when you think of a very small particle of excreta over that the sunlight cannot penetrate, you will appreciate how little one can rely upon the disinfecting property of sunlight to make excretal material safe when deposited under such conditions.

Conference adjourned.

Digitized by Google

Fifth Session — Wednesday, September 16, 1914

The Conference was called to order at 2 p. m., Commissioner Biggs presiding.

COMMISSIONER BIGGS — We are very fortunate in having for the first paper this afternoon "The Bacteriology of Milk and Milk as a Means of Infection," by Dr. William H. Park, the Director of the Research Laboratories of the New York City Department of Health. There is no one in this country certainly, and I doubt if there is anyone in the world, who is better qualified to speak upon this question than he is. He has had the supervision of the New York City Health Department's work on the bacteriology of milk since the inception of the work a dozen years ago, and I believe that there is no great city in the world that has as complete a system of milk supervision and milk inspection, as complete and satisfactory a system of milk inspection and milk regulation, as there.

THE BACTERIOLOGY OF MILK AND MILK AS A METHOD OF INFECTION

WILLIAM H. PARK, M.D.

Director, Laboratories, Department of Health, New York City

First let me express my appreciation at being invited here. For ten years I had the privilege of working under Dr. Biggs. He was the chief and I was really under him. So that it is really a great pleasure to come here now and help in the great vital work he is doing and you are doing with him in the State.

The subject which has been given me has been so often written about and spoken about that I hardly know where there is anything that I could tell you that you do not know yourself. But I have been so intimately connected with this work that there may be certain aspects that will appear to me important that do not whatever to you, and also the fact that you are now adopting certain standards, makes it important that we thresh out these things together.

The gradual accumulation of knowledge on the communicable diseases and the microorganisms causing them has changed radically our ideas on the methods of combating these diseases. Our ideas of what constitutes a wholesome milk supply have radically changed in the past twenty years. We still insist that the

Digitized by Google

milk come from healthy cows and that we get the amount of fat and total solids we pay for, but we realize that the danger in ordinary market milk is not of having the fat removed or of water added, but that bacteria have entered with the dirt or from infected men and cattle and that because of warmth they have greatly multiplied.

In 1902 your Health Commissioner, Dr. Biggs, Dr. Lederle, the Health Commissioner of New York City, and the reader of this paper, keenly felt the need of grading milk on its sanitary conditions rather than on its food value and it is largely owing to the efforts of Drs. Biggs and Lederle that New York City took its advanced stand on the grading of milk and undoubtedly it is to Dr. Biggs that the regulations about to go into effect in this State are due.

In this paper I can only touch on some of the important aspects of the relation of the bacteria in milk to disease and the value of estimating them. Fortunately you are nearly as familiar with the subject as I am.

Milk provides a good soil for a great many varieties of bacteria. The ordinary bacteria of the soil and the manure are most commonly found in it, but those from diseased animals and men occasionally gain access and excite specific diseases. While some of the saprophytic bacteria produce harmful products, others produce those that are harmless or even beneficial in their effects. The custom in Eastern Europe of drinking milk soured by different lactose fermenting bacteria, which has lately been transmitted to Western Europe and to us and become almost a fad, strikingly impresses the fact that many varieties of bacteria are not only not harmful to swallow to the extent of many billions, but even beneficial. Unfortunately, there are almost always in the air and dust of the ordinary barn, besides the harmless varieties, intestinal and other bacteria which produce disagreeable and often deleterious substances, so that ordinary milk is frequently dangerous when given to young infants. This is especially true if the milk is kept at a temperature above 60 degrees F. At a temperature of 80 or higher powerful poisons are sometimes produced. Some of these are harmful to adults as well as

Digitized by Google

children. In milk kept at low temperatures of 50 degrees F. or under, products of bacterial growths are usually harmful for infants only. The great susceptibility of infants under one year during hot weather to poisoning by milk infected with excessive bacterial growth of the types found, as a rule, in market milk is one of the most essential facts to be kept constantly in view. The ordinary milk sold in cities in summer, which averages at least one million bacteria per c. c., while poisonous for infants, will usually produce no detectable bad effects in children above two years.

Even in infants the usual types of bacteria do little harm in cold weather; it is only in hot weather, when the resistance of the digestive tract is lowered, that these saprophytic bacteria and their products cause serious harm. It is true that the actual number is on the average higher in the milk in summer, but not more than twice or three times as high as in winter, and where infants have taken milk of the same quality and containing approximately the same number and kinds of bacteria the same marked difference occurs in the two seasons.

The increased diarrhea is of course not wholly due to the bacteria. During short periods in which the heat and humidity are excessive, diarrhea becomes prevalent among the infants of cities fed upon cow's milk. The bacterial contamination of the milk is at such times practically unchanged, since by means of cool water at the farms and ice during the transportation, the milk, in spite of the increased heat, is kept at about the same average temperature. I once had the opportunity of observing the health of the very young children in an infant asylum. These children received milk from a near farm and the bacterial count was always low. During cool weather almost no diarrhea occurred. With the onset of warm weather in June a few of the smaller infants developed some illness. During July the cases of diarrhea increased, these reached the maximum early in August when several deaths took place. With cool weather diarrhea again ceased. In this instance, with all factors constant except temperature, disease came and went with the hot

Digitized by Google

weather. An actual experience brought out, on the other hand, the harm that the bacteria in the milk produce.

A group of fifty babies were being fed on milk pasteurized for twenty minutes. Late in June half of these babies were given the same supply of milk, but without previous heating. The living bacteria in the heated milk averaged about ten thousand per cubic centimeter, while the unheated contained about one million. There was immediately a marked increase in the diarrhea in the half getting the unheated portion of the milk. Some of the infants had to be put back on the heated milk before the diarrhea could be controlled. These two instances are only examples of the experiences which all investigators have had. Heat and humidity predispose the infant to intestinal diseases, which cow's milk as such tends to aggravate. While it is true that the bacteria in the intestines or those introduced through water may under such favorable conditions excite diarrhea, still it usually requires in addition the giving of cow's milk with excessive numbers of living bacteria.

The great difference between the results of giving ordinary milk to infants in cold and hot weather is apparent in the following tables. These were made jointly by Dr. Holt and myself from a series of observations carried out under my supervision on infants in 1901, 1902 and 1903. The infants were all selected for study in early June before any illness had developed.

RESULTS IN SUMMER

	Did well	Did fairly	Badly	Died	Total
1. *Store milk in cans, about 5 to 50 million bacteria per c. c.	21	23	20	15	79
2. Condensed milk, few bacteria	22	20	14	14	70
3. Good bottled milk, about 300,000 bacteria per c. c., when consumed	37	23	29	9	98
4. Milk pasteurized and modified from stations, about 50,000 bacteria per c. c., when consumed	84	33	24	4	145
5. Clean bottled milk, "Certified," about 10,000 bacteria when consumed	9	3	.....	.....	12
6 Breast feeding	17	7	7	.....	31
Totals, excluding cases counted twice	184	108	88	41	421

* This milk was usually heated on the stove, shortly after its purchase. As given it varied greatly in the number of bacteria, but averaged about 1,000,000 per c. c.

Digitized by Google

RESULTS IN WINTER

	Did well	Did fairly	Badly	Died	Total
Stare milk, about 1,000,000 bacteria per c. c....	47	6	2	.....	55
Condensed milk, few bacteria.....	39	5	2	*2	48
Good bottled milk, about 100,000 per c. c.....	51	13	1	*3	68
Milk modified and pasteurized stations about 10,000 per c. c.....	35	20	4	.....	59
Certified milk, about 5,000 per c. c.....	5	.....	1	.....	6
Breast feeding.....	7	1	.....	*1	9
Total, excluding cases counted twice.....	156	41	8	*6	211

* Four of these died from pulmonary diseases.

The great difference in the results obtained in the ordinary family from the use of ordinary cow's milk and of a properly modified and heated milk is very evident in every investigation.

Those who have studied the subject know that simply supplying pure milk will not save a majority of the lives now lost through improper feeding; there must be instruction in the preparation and modification of the milk, in the amount and frequency of feeding, and in many other things.

The continued use of condensed milk, though free from bacteria, was not found to give good results. The infants, though for a time doing well, seemed to possess little stamina and when once attacked by illness readily succumbed.

In New York City Dr. Cronin looked up for me the milk supply of 1,000 fatal cases of enteritis under two years of age. Eighty-one per cent. were under 9 months and only 6 per cent. in the second year. While more than 75 per cent. of the infants were fed on their mother's milk, nevertheless 78 per cent. of the infants dying of enteritis were fed on cow's milk alone or with patent foods. It is these lives that we can largely save by pure milk and care.

THE SPECIFICALLY PATHOGENIC BACTERIA TRANSMITTED THROUGH MILK IN THIS LOCALITY

These in the order of their importance I would put as follows: the typhoid bacillus, the tubercle baccillus, the streptococcus of septic sore throat, the contagion of scarlet fever and the diphtheria bacillus. It has not so far as I know been proven that measles, whooping cough, smallpox, chickenpox, mumps and other communicable diseases have been transmitted. It is, nevertheless,

Digitized by Google

wise to prevent the possibility of infection. Certain points only can be discussed concerning these bacteria.

It is undoubtedly the typhoid carriers which are responsible for most of the typhoid dissemination. Several years ago we traced over 400 cases in New York City to milk infection by a carrier who had had typhoid fever 43 years before. The number of cases which may have been contracted from him during this period is appalling to contemplate. A year ago, of the remaining five large companies supplying "grade B raw" milk to New York City four were found to have produced through the milk, typhoid cases. In one instance these amounted to over a hundred.

The only means of avoiding this danger is the examination of all employes for the detection of typhoid carriers which is extremely difficult or the pasteurization of the milk.

The septic sore throat infection has been prevalent during the past few years. This past summer a small dairy in New York State spread infection to more than two hundred cases. This disease is probably contracted from streptococci either from a human case or from a septic cow.

Scarlet fever is very similar in its transmission. The human type is transmitted from men, while a disease very similar is transmitted from septic cattle.

Diphtheria is less important than the other three important infections. Undoubtedly many cases of septic sore throat in the past have been considered as diphtheria.

The typhoid bacilli, the streptococci, the diphtheria bacilli, and probably the organism of scarlet fever increase in numbers in milk when the temperature is over 50 deg. F. The higher the temperature the more rapid their development. They do not die from the increasing acidity until sometime after the milk has curdled. As a rule in about 48 hours after this time all will be dead. It depends on the amount of acidity produced by the lactose fermenting bacteria. Such cream is not necessarily safe.

THE IMPORTANCE OF BOVINE BACILLI DERIVED FROM MILK AS A CAUSE OF HUMAN TUBERCULOSIS

The opinions of those best able to decide this question have been subject to remarkable changes during the past thirty years.

Digitized by Google

The similarity of human and bovine bacilli naturally led Roch to consider them identical. More careful studies by Smith, Ravenel, Roch and others showed that there were distinct differences between them. A study of the bacilli in a number of consumptives revealed to Roch the fact that they were all of the human type and in a number of cows that they were all of the bovine type. He naturally jumped to the conclusion that the human type was only passed from man to man and the bovine type only transmitted to cattle. The discovery in man of the bovine type by Theobald Smith and Ravenel revealed the possibility that although adults might be susceptible to the human type only, children might be to both. This became a most important problem to solve. This caused groups of workers in England, Germany and the United States to undertake very careful and extensive investigations to prove once and for all the extent of the conveyance of tuberculosis from the cow to man.

In this country Smith, Ravenel and a few other workers continued these studies on individual cases of tuberculosis and on the characteristics of the two types of bacilli.

The Research Laboratories of the Health Department set themselves another problem, namely to investigate series of cases in children's hospitals and in sanatoria so as to get at a fair idea of the importance of bovine infection in man. We first satisfied ourselves that the means of differentiation between the bovine and human types was absolutely reliable. We found the character of growth on glycerine egg media and of virulence in rabbits sufficient for identification. The identification of each culture requires about 48 hours of work and stretches over about 3 months. Since about one year all the groups of investigators have reported and fortunately all have agreed in essentials. The greatest amount of bovine infection exists in Scotland, the next in England. In Germany and the United States it is least.

At the time of our investigation about 3 per cent. of all tuberculosis in New York City was due to bovine infection. This was confined to the children and the fatal cases to infants and young children under five. About one per cent. of the total deaths from tuberculosis was of bovine origin. About 26 per cent. of all tuberculosis in children was found to be due to bovine infection.

Digitized by Google

In England several cases of bovine infection in adults have been detected. While these figures do not show a great number of deaths and a great amount of sickness due to bovine infection nevertheless it is considerable.

Another fact is important to weigh, namely, that at least seventy per cent. of infants receive breast milk during their first nine months only and that many infants and children consumed even in 1912 only pasteurized cow's milk.

The importance of these considerations is indicative in the results we obtained at an institution where the infants were fed on cow's milk. Of nine fatal cases of tuberculosis, there were five due to bovine infection. These facts are sufficient to demonstrate the need of insisting that children's milk should be produced by cattle free of tuberculosis or that it should be pasteurized.

The only way that herds can be freed from tuberculosis is by the careful use of the tuberculin test. The physical test alone is absolutely insufficient. If regularly and frequently employed it will cut down materially the amount of infection in the milk but there will always remain a sufficient number of those having unsuspected pulmonary or other infections to continue to spread the disease to the sound cattle and from time to time to infect the milk. An annual physical examination would, of course, be utterly insufficient.

We have carefully studied this matter in connection with the certified herds and have found it perfectly possible to produce clean herds and keep them so. One thing is very important that the test be carried out properly and that all suspicious reactors be removed. We have found that if there is a slight gradual rise of temperature, followed by a gradual fall that such a course is apt to mean a reacting due to tuberculosis even though it be but one degree. Of a dozen such cattle several will be tubercular and if left continue to infect the other cattle. These cattle, if physically sound, can be put into herds whose milk is being pasteurized. There is a possibility that in the course of years bovine bacilli living in human tissues may change to the human type. There is no proof of this beyond the fact that there have been a few transitional forms found in man. If this takes place it adds a little to the importance of bovine infection in adults.

Digitized by Google

THE ESTIMATION OF BACTERIA AS ONE OF THE IMPORTANT MEANS OF GRADING MILK

The detection of bacteria is always too late to stop the milk in which they were found from being consumed. The relation of the tubercle bacillus of cattle to the tuberculosis of the human infant and child makes it essential that children's milk be freed from it by eliminating tubercular cattle or of destroying the bacilli by pasteurization. The danger to adults is so much less that the same precautions are not necessary.

The detection of the other pathogenic bacteria is practically impossible, we therefore give to the estimation of the number of bacteria a double importance, namely as a measure of the methods employed in obtaining and keeping the milk and a measure of its wholesomeness for the infant, as dead bacteria in moderate number are harmless a greater number of bacteria is permissible in milk for children which is to be pasteurized than that which is given raw. After pasteurization there is no reason to allow either in children's milk or in that for adults large numbers, because proper pasteurization will destroy 99 per cent. of the bacteria and if kept below 45°F. the numbers will not double within 24 hours.

The idea that bacteria increase much more rapidly in pasteurized than in raw milk is an error. The following results of a test show this well:

	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
Pure Milk, original No. Bact.	2,340,000	1,440,000	5,400,000	224,000	1,020,000
Same after heating 160 deg. F., ½ min.	27,000	10,000	1,600	950	720
Same after heating 1 min.	10,000	1,160	900	450	260
KEPT 24 HOURS AT 48 DEGREES F.					
Unheated	8,100,000	10,800,000	7,560,000	680,000	8,100,000
½ min.	32,400	12,400	6,000	1,680	1,750
1 min.	16,500	3,400	5,000	1,000	1,040
KEPT 48 HOURS AT 48 DEGREES F.					
Unheated	27,000,000	32,400,000	.....	.....	.....
½ min.	51,000	15,500	.....	.....	.....
1 min.	30,000	17,000	.....	.....	.....
KEPT 5 HOURS AT 72 DEGREES F.					
Unheated	54,000,000	90,000,000	.....	.....	.....
½ min.	372,000	116,000	.....	.....	.....
1 min.	180,000	120,000	.....	.....	.....
KEPT 24 HOURS AT 72 DEGREES F.					
Unheated	163,000,000	324,000,000	108,000,000	118,000,000	112,000,000
½ min.	18,900,000	27,000,000	8,640,000	7,560,000	7,020,000
1 min.	16,200,000	21,600,000	8,100,000	5,400,000	5,400,000

Digitized by Google

A study of the figures shows that in the ice chest there is a less increase in the heated than in the raw milk. At much higher temperatures there is a greater development, but here it is because the bacteria are approaching the limit of their growth and are being injured by the acids and other bacterial products produced. One objection is true. Pasteurized milk because of the lactic acid bacteria having been killed, will not sour from bacterial growth. If this were really a serious objection it would be a very simple matter to add to the heated milk a few harmless lactose fermenting bacteria.

THE ACCURACY OF BACTERIAL COUNTS

The medical officer is apt to expect too much accuracy in the bacterial colony counts and when he realizes the facts he often jumps to the other enormous conclusion that they are so inaccurate as to be virtually useless. What are the facts: the bacterial colonies which we universally use to estimate the number of bacteria really give us only from 5 to 50 per cent. of the total. Bacterial clumps give us single colonies although they may contain 50 to 500 bacteria. If one examiner shakes a sample more than another very different results will be obtained. Two plates of the same sample of milk may when made and examined by the same person show 50 per cent. variation, e. g., 50,000 and 75,000. Different lots of media give different results. Recently a state and city laboratory differed greatly. Called in as a referee I found the State media so unsuitable that only 10 per cent. of the proper number of bacteria grew. When, however, the media are made according to rule and the standard methods are employed the results are uniform enough to be of the greatest practical value.

The fact that errors may creep in and also that accidents may happen in the handling of the milk make it fair in making the bacterial standards of milk to take the average of at least four samples.

A recent result of a bacterial test was the discovery that a "Grade A" supply was adding a "Grade B" supply to it and calling the whole "Grade A." In another case the bacteria led the way to finding that the stored skimmed milk was added to the fresh supply.

Digitized by Google

The number of bacteria in fresh milk measures the cleanliness of cow, milker and utensils, in milk for delivery the time since milking and the average temperature. The bacteria in milk before and after pasteurization the effectiveness of the process.

Now, I have gone over this thing in rather a hit and miss way, but I hope if there is any question you wish to ask you will do it, because we are here for practical purposes and there may be some points that I have left out that you may want to ask about, or others that I will answer if I can.

COMMISSIONER BIGGS — We will leave the discussion for the end. I would like to say that I noticed that Dr. Park spoke of diseases that might be transmitted through milk, and said that so far as he knew regarding measles that there was no evidence that measles had been transmitted by milk. Several people have called our attention to the fact that in the Sanitary Code where persons were suffering from measles on a dairy farm, that it was cause for the exclusion of milk and the quarantining of the dairy. I do not know exactly how it was that measles found its way into that regulation. Those regulations on communicable diseases had the most careful consideration, and were gone over again and again. But the Public Health Council met this morning at 10:30 o'clock, and that regulation is changed. It has been amended and measles has been excluded from that regulation. It does not require the quarantining of a dairy farm where measles exists.

The next paper is one by Mr. Ernest Kelly, of the Dairy Division of the United States Department of Agriculture, at Washington, on "The Scoring of Dairies." The Department of Agriculture was good enough to detail Mr. Kelly to come here for this meeting.

Digitized by Google

THE IMPORTANCE AND METHOD OF SCORING DAIRIES

ERNEST KELLY

In Charge of Market Milk Investigations, Dairy Division, Bureau of Animal Industry, U. S. Dept. of Agriculture

I am going to occupy just as little of your time as I possibly can because I see by the program that I am to be followed by my friend from Albany, who not only can tell you the value of clean milk but I know is in a position to tell you how to produce it, too.

It is not necessary before this Association to devote any length of time to a discussion of the need of milk control. You are well aware of the effect of impure milk on the public health and the necessity of an inspection system which will be both adequate and equitable. The acquisition of wider knowledge concerning milk and the increasing complexity of our milk problem has led to greater efforts along the line of dairy sanitation. Milk calls for special attention because of the fact that it is the chief food of infants and because it is especially perishable and susceptible to contamination during its production and subsequent handling.

At the present time, generally speaking, there are three features of dairy inspection that stand out prominently as in need of much thought. First is the training of dairy inspectors; second, the funds devoted to this work, and third, the lack of uniformity of inspection systems even in adjacent towns.

Unfortunately, in some localities (and I refer to no particular section of the country), men totally devoid of the requisite training or ability have been appointed to carry on this most important work. Men are needed who know not only how to find fault with insanitary conditions, but who can point out practical methods of overcoming them. Neither should the personal characteristics of tact, fairness and determination be overlooked. A knowledge of the economic problems confronting our milk producers is also of great assistance to the inspector as it puts him in much closer touch with the situation and increases his sphere of usefulness.

The financial side of milk inspection has been very much neglected. Ridiculously small sums have been appropriated in

Digitized by Google

some places which have made efficient inspection impossible. Some time ago I received from 162 cities reports on the amounts spent for dairy inspection. Twenty-two of these cities spent nothing for this important work. Only 43 cities spent 5 cents or more per capita per year and the average amount appropriated in the cities spending any money was only 4.14 cents per capita per year. Less than one carfare for each person, to protect the milk supply.

Lack of uniformity in laws and inspection systems has led to considerable confusion and has allowed too much latitude for local hobbies. I find that bacteria standards for pure milk range from 25,000 per c.c. in one city to 1,000,000 in another. It is absurd to suppose that milk containing 1,000,000 bacteria per c.c. is harmless in one city, and dangerous in the other, and yet the laws would lead a layman to that conclusion. This alone shows the need of a uniform system of inspection and grading.

Many believe that a routine bacteriological examination of milk is in itself sufficient, and have tried to minimize the need of sanitary inspections. It seems to me that a sanitary inspection is absolutely necessary because by it the source and character of the contamination can often be more accurately determined than by a bacteria count alone. Secondly, a sanitary inspection which points out defects and suggests improvements has much more educational value than has the report of a bacteria count alone. The ideal system seems to be one which combines the bacteria count and the sanitary inspection used as checks one on the other.

At the present time, I feel sure that the score card is the best instrument for a sanitary survey. No one will deny that the score card has its faults and that it is not infallible, but judging by results it is the best means at hand.

Some form of score card is in use by over 200 cities in this country and it has been translated into French for use in Canada. It is of vast educational value; forms a complete record for office files; serves as a check on inspectors, and helps the inspector by telling him where to look for faults. The score card is divided into two sides, one for equipment, the other for methods. Some have argued that the score for equipment was too high and that it penalized the dairyman with small means. The following data, compiled after I scored a number of dairies near a southern city,

Digitized by Google

show the fallacy of such an argument. The average score for equipment was 17, or 42½ per cent. perfect, while the average score for methods was 23 or 38¼ per cent. perfect. In those dairies which were very poorly equipped, the greatest loss was not because of lacking equipment but because of dirty methods. When I go to a farm, I make a careful sanitary inspection, and find out what are the causes of that high bacterial count and then give the farmer the information by which he can improve his sanitary conditions and reduce his bacterial count.

Time is too brief for me to enter into a detailed discussion of the various points on the score card, and I can but refer you to Circular 199 of the Bureau of Animal Industry, U. S. Department of Agriculture, entitled "The Score Card System of Dairy Inspection." This circular may be had on application to the Department, and contains very full instructions as to the meaning of the several items on the score card. There are a couple of other bulletins that I will also refer you to — one just off the press is Farmers Bulletin 602, entitled "Production of Clean Milk." That was put out to fill the demand by dairymen and by people interested in clean milk all over the country for a simple, practical bulletin dealing with the essential factors underlying the production of clean milk. For those of you who are in larger cities and have the problem of milk sold from stores, it might be of interest to you to send for Bureau of Animal Industry Circular 217, entitled "The Control of Bulk Milk in Stores."

Finally, let us consider for a moment whether the advantages claimed for the score card are real or fancied. Health officials, dairymen and milk dealers in large numbers have testified as to the practical value of the scoring system. A committee on dairy farm inspection appointed by the International Association of Dairy and Milk Inspectors reported at their last meeting that, "It is the opinion of this Committee that the score card of the Official Dairy Instructors' Association as adopted and used by the National Dairy Division in the hands of a competent inspector who is proficient in its use offers greater facilities for improving the average dairy farm conditions than any other agency. This dairy score card has provided us with a system of measuring the relative merits of dairies far in advance of men and administrative methods yet available for utilizing it to its fullest extent."

Digitized by Google

At the present time the Massachusetts Milk Inspectors' Association is sending out circular letters urging its members to adopt the standard score card for scoring.

In closing I wish to say that we have no desire to force the score card on anyone. We have adopted it for use in our co-operative educational work because we believe it to be the best medium at hand for country inspection and because its systematic use will do much to bring order out of chaos. The Dairy Division will be glad to assist inspectors by demonstrating the use of the card wherever such assistance is desired, and so far as our rather limited force is able to respond to the calls.

I have attached to this paper a copy of the score card, and any of you who are interested in it can obtain copies by dropping a postal to the Department. It takes up here on the two sides, Equipment and Methods. Now, of course, this is a fairly arbitrary way of giving weights to different things about the dairy. For instance, we give five points credit out of 100 if the dairyman uses a small-top milk pail partly covered so that dust does not fall into it from the cow's body. That may be worth 20 points or it may be worth only 2 points. But it has been found by experiments at Experiment Stations that under dirty conditions it excluded 90 per cent. of the bacteria that are ordinarily found in milk. That is just one item, the use of the small-top pail. So I say you can not measure accurately just what influence in one dairy the operation will have on the bacteria content of the milk. You may have a dirty dairy, apparently dirty, that is producing milk with a low bacteria count, and a clean dairy or a high scoring dairy that was producing dirty milk.

And the score card takes up the health of cows, whether or not they have been tuberculin tested, whether they are apparently in good health, whether they have clean and wholesome food and water. And it covers the location of the stable, if it is well drained and free from contaminating surroundings. Whether it is near piles of manure, a hog pen, a nonscreened privy — all of those things are considered in the location of the stable. And it scores the walls, ceilings and floors inside, whether they are tight and smooth and can be easily cleaned. Of course we do not expect anybody to score perfectly, for I have never seen a dairy that

Digitized by Google

would score perfectly. But we are holding that up as sort of a model toward which to work, to work along the line of equipment and in methods. It is a model that we hold up and not a thing we expect everybody to come up to and secure 100.

Provision is made for scoring the light and ventilation which is so often deficient in our average dairy farms, and for which there is no reason under Heaven. Air and sunshine are absolutely free, and yet you go along through the country and see barn after barn without any light and no air except that which you get from little holes sawed in the wall through which the manure is thrown out. There is no reason for that condition, and simply indicates the need of education showing where light and air can benefit the sanitary condition of the stable and the health of the cattle. It takes up the ventilation of the stable, whether the cows are supplied with plenty of fresh air in ways in which it doesn't cause them injury. You don't want a draft on the back of the cow, and don't want ventilation through cracks between boards but want it from the top of a tipped window or through ventilating flues giving a supply of pure fresh air without causing any damage to the cattle.

And the construction of the utensils and the small-top pail, we give credit for that; and credit for a milk cooler so that the milk can be cooled just as soon as possible. And the milk room or the house where the milk is handled, we score the location of that in relation to its surroundings that might serve to contaminate the milk, and its construction. Those are the things that we score under equipment.

And then under methods which count 60 out of 100, we score cleanliness of the cows themselves, whether they have been cleaned or are in a dirty condition. We score the cleanliness of the stables, and here we try to make it just as easy as we can for the inspector. It doesn't say, cleanliness ten points, when it may be worth 6, 8 or 10. We cut it up in little items, so that while his judgment might fail a little bit, he can not go far wrong on the total score. Cleanliness of the floor is two points, the walls count for one point, ceiling and ledges is 1 point, and cleanliness of the mangers and partitions and of the windows each score one point. In some places I have found they gave the whole score or zero. If the

Digitized by Google

floors are very clean they give them two points, and if they had not very clean floors they were given zero. We have always been in the habit of giving a portion of a point, perhaps cutting it to half a point showing that the floors are half cleaned. Instead of giving a man zero we give him a little bit better than if they were entirely filthy; we give him one point out of two. In that way you can divide up the points and balance them and be a good deal fairer, and make allowances for any conditions which you will find. The stable air at milking time we score under freedom from dust and freedom from odor. If he throws down hay just before milking time we cut him heavily on freedom of stable air from dust. If he feeds ensilage just before milking time and there is any strong odor in the barn at milking, we cut him on freedom from odors at milking. We score him on the removal of manure daily to 50 feet from the stable, and allow two points for that. If he throws it outside his barn he loses that two points credit that he might otherwise have. And there is the cleanliness of the barnyard, whether there are any piles of manure that the cattle can wade through, whether it is well-drained, we allow a certain score for that. In utensils and milking are perhaps the most important points that we make larger allowances under. The sterilization of utensils is one of the most important things, I believe, on the average dairy farm. Steam is not available everywhere, but boiling water is available everywhere. We give a certain credit if the utensils are thoroughly washed, that is if they are clean to the naked eye, if no old milk is left in the seams, and no dry milk on the pails or strainers. We take up separately if they are sterilized with steam or scalded with boiling water, by which they can get efficient results. But on many dairy farms you probably know how it is. They go to the house and get a bucket of water and bring it down and pour it into one pail and after it is rinsed out, then into another one, and into a can and put the strainer in that water. And of course there is no need to tell you what sort of sterilizing water like that can do. It is very important in my mind, one of the most important things on a dairy farm, to have proper sterilization of utensils after their washing, especially where you are in danger from the water supply. Because with an impure water supply, if the pails were

Digitized by Google

not sterilized after washing, you can easily see the trouble that could come from an impure water supply.

Then we take up the cleanliness of the milking, whether the man milks with clean, dry hands. If so, we give him full credit. If it is wet-handed milking we usually give him nothing. I have heard lots of people who told me they could milk wet-handed and make clean milk. I have heard a great many people say that, but in all my experience I have yet to see the man that did it. If they work wet-handed the milk runs down the hands and drops off the wrists and goes into the pail.

For cleaning the cows just previous to milking we give full credit if they wipe the cow off with a damp cloth, to wash off any loose dust. And if they brush the cow off thoroughly at least fifteen minutes before milking we give them a credit of 1. When that is done at least 15 minutes before milking the dust has time to settle before you sit down and milk. If he sits down and holds the pail between his legs and brushes the cow with his hands, we don't give him a thing for that.

Under the handling of the milk, nearly all of that has to do with the cooling of which Dr. Park has just spoken to you a few minutes ago, the cooling of milk just as soon as possible, and keeping it cold. We give them full credit for that, because we feel, just as Dr. Park pointed out, that while there may be some initial contamination, if that milk is not thoroughly cooled and is not kept cold until the consumer gets it, there will be a tremendous increase in the bacteria count of the milk. Now those of you who are in the larger towns have still further problems. Not all the trouble with milk comes at the farm by any means. Those of you who have towns large enough so that there are city dealers who buy milk from a good many sources and handle milk from a number of producers, have another proposition that is just as big as the dairy farm proposition only a good deal easier to watch because it is concentrated in one place. Those bottling machines and coolers and bottles used have all got to be just as carefully sterilized and taken care of as the apparatus on the farm. If it is going to be run through a contaminated bottling machine all the good may be undone. You have got the city dealer to watch and my experience with the city dealer in

Digitized by Google

a small town is that he is not very careful with his method of sterilization, especially with the milk bottles. They deliver milk in a great many towns and take the bottles back. I have seen a milk dealer take up from the door step and refill a bottle that has been washed by the consumer and he had to go on the faith of the consumer. And when it comes to washing milk bottles, your faith in the consumer is very often misplaced. That is especially true when it is picked up from a house where there is some contagious disease. There has got to be very careful supervision of that case so as not to spread the contagious diseases through the milk plant.

And there are the places where you have the store problem; the store buys a five or ten gallon can of milk from a dealer and ladles it out, and you send Mary around to get some milk for the baby. You give her any receptacle that you have at hand. And the milk is dipped out and flies may have walked over the ladle, or the milk may not be properly iced. In a State that adjoins this I have seen a five gallon can of milk in the middle of a grocery store. They were getting the milk delivered about seven o'clock in the morning, and it stayed in the middle of the floor until seven o'clock the next morning. It stayed there without any refrigeration of any kind. There was a can of milk and a can of buttermilk, and the one dipper was used for both of them.

Now I realize that the small town health officers have a peculiarly hard proposition. It has been the common impression that milk in the country towns is better than milk in the city. I don't think you want to delude yourselves with that idea entirely. It is better for one respect, it is fresher than the milk we get in the cities, but usually it hasn't had the benefit of such close supervision as the milk from the big cities gets. The big cities are able to employ milk inspectors, and are able to take care of their milk supplies in pretty good shape, but the small towns are not able to pay enough to get a man to devote enough of his time to do the work thoroughly. That is one of the greatest drawbacks I can imagine in the small town. And in the small town there is lack of laboratory facilities and not enough money to equip and operate a laboratory for the important work

Digitized by Google

on milk control which serves as a check on inspection. Another thing in the small town sometimes you haven't got public opinion back of you, and it is a mighty hard thing for a health officer in a small town who hasn't the cooperation of his town officials and who hasn't the cooperation of his women's clubs and citizens' association, to do anything in the line of a clean milk campaign. But I hope in such places that a systematic scoring and an educational campaign among the dairymen to teach them the principles and rudiments of sanitation will work a vast amount of good. If the Department of Agriculture can be of service in any way we always stand ready to do whatever we can. We have a few men who go around doing this cooperative educational work, who stay two or three days and demonstrate the score card. He will give a few days to the inspector if you have difficulty and give him whatever help he can in straightening out his system of milk inspection. We do not solicit any work for we have plenty to do. We do not go anywhere unless asked, and we have no authority to. But if any of you want any help any time we will be very glad to help you if we have the men with which to do it.

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF ANIMAL INDUSTRY
DAIRY DIVISION

SANITARY INSPECTION OF DAIRY FARMS

SCORE CARD

Indorsed by the Official Dairy Instructors' Association.

Owner or lessee of farm.....
P. O. address..... State.....
Total number of cows..... Number milking.....
Gallons of milk produced daily.....
Product is sold by producer in families, hotels, restaurants, stores to.....dealer.
For milk supply of.....
Permit No..... Date of inspection....., 191

Digitized by Google

REMARKS: .....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(*Signed*) .....

Inspector.

EQUIPMENT	Score: Perfect	Score: Allowed
COWS.		
Health	6	.....
Apparently in good health... 1		
If tested with tuberculin within a year and no tuberculosis is found, or if tested within six months and all reacting animals removed. 5		
(If tested within a year and reacting animals are found and removed, 3.)		
Food (clean and wholesome)	1	.....
Water (clean and fresh)	1	.....
STABLES		
Location of stable	2	.....
Well drained 1		
Free from contaminating surroundings 1		.....
Construction of stable	4	
Tight, sound floor and proper gutter 2		
Smooth, tight walls and ceiling 1		
Proper stall, tie, and manger. 1		
Provision for light: Four sq. ft. of glass per cow	4	.....
(Three sq. ft., 3; 2 sq. ft., 2; 1 sq. ft., 1. Deduct for uneven distribution.)		
Bedding	1	.....
Ventilation	7	.....
Provision for fresh air, controllable flue system 3		
(Windows hinged at bottom, 1.5; sliding windows, 1; other openings, 0.5.)		
Cubic feet of space per cow, 500 ft. 3		
(Less than 500 ft., 2; less than 400 ft., 1; less than 300 ft., 0.)		
Provision for controlling temperature 1		

METHODS	Score: Perfect	Score: Allowed
COWS		
Clean	8	.....
(Free from visible dirt, 6.)		
STABLES		
Cleanliness of stables	6	.....
Floor 2		
Walls 1		
Ceiling and ledges 1		
Mangers and partitions 1		
Windows 1		
Stable air at milking time	5	.....
Freedom from dust 3		
Freedom from odors 2		
Cleanliness of bedding	1	.....
Barnyard	2	.....
Clean 1		
Well drained 1		
Removal of manure daily to 50 feet from stable	2	.....
MILK ROOM OR MILK HOUSE		
Cleanliness of milk room	3	.....
UTENSILS AND MILKING		
Care and cleanliness of utensils	8	.....
Thoroughly washed 2		
Sterilized in steam for 15 minutes 3		
(Placed over steam jet, or scalded with boiling water, 2.)		
Protected from contamination 3		
Cleanliness of milking	9	.....
Clean, dry hands 3		
Udders washed and wiped 6		
(Udders cleaned with moist cloth, 4; cleaned with dry cloth or brush at least 15 minutes before milking, 1.)		

Digitized by Google

EQUIPMENT	Score		METHODS	Score	
	Perfect	Allowed		Perfect	Allowed
UTENSILS			**HANDLING THE MILK**		
Construction and condition of utensils	1		Cleanliness of attendants in milk room	2	
Water for cleaning (Clean, convenient, and abundant.)	1		Milk removed immediately from stable without pouring from pail	2	
Small-top milking pail	5		Cooled immediately after milking each cow	2	
Milk cooler	1		Cooled below 50° F. (51° to 55°, 4; 56° to 60°, 2.)	5	
Clean milking suits	1		Stored below 50° F. (51° to 55°, 2; 56° to 60°, 1.)	3	
MILK ROOM OR MILK HOUSE			Transportation below 50° F. (51° to 55°, 1.5; 56° to 60°, 1.) (If delivered twice a day, allow perfect score for storage and transportation.)	2	
Location: Free from contaminating surroundings	1				
Construction of milk room	2				
Floor, walls, and ceiling 1					
Light, ventilation, screens 1					
Separate rooms for washing utensils and handling milk	1				
Facilities for steam (Hot water, 0.5.)	1				
Total	40		Total	60	

Equipment.....+ Methods..... = ...Final Score

NOTE 1.— If any exceptionally filthy condition is found, particularly dirty utensils, the total score may be further limited.

NOTE 2.— If the water is exposed to dangerous contamination, or there is evidence of the presence of a dangerous disease in animals or attendants, the score shall be 0.

COMMISSIONER BIGGS — We are very much indebted to Mr. Kelly for this fine paper on the "Scoring of Dairies." The next paper is by an expert, Dr. Shaw. Mr. Kelly said Dr. Shaw was not only an expert on the feeding of infants, but also an expert on the production of milk. He has a model dairy of certified milk of the highest grade.

Digitized by Google

THE IMPORTANCE OF PURE MILK FOR INFANTS AND INFANT FEEDING

HENRY L. K. SHAW, M.D.

Director, Division of Child Hygiene, State Department of Health

I did not expect that my dairy career would get out this afternoon; I was going to keep that very much in the background. But being both "farmer doctor" and "doctor farmer," it gives me the opportunity of knowing some of the problems that concern pure milk producers. I have in mind the story of a rather prominent agriculturist who owned a farm on the Hudson river, and who offered his guests milk and champagne. He said it didn't make any difference which they took, as both cost the same. "Pure Milk is Purchasable. Within Natural Limitations Any Community Can Determine Its Own Milk Supply." The problem of infants and infant feeding is one of very great importance.

Nature in her plan for the nurture and nourishment of the genus mammalia provided the mother with a food adapted to the peculiar and particular requirements of each species. This food, known as milk, contains the same food elements in each species but differs in chemical and percentage composition and biologic properties. Mankind from time immemorial has utilized the milk of the cow for food purposes and the Bible refers to the Land of Canaan as one "flowing with milk and honey." To-day the average per capita of milk consumed in the United States is estimated at 6/10 of a pint per day and the total annual production of milk in the United States is over 10,000,000,000 gallons, with a valuation of over $850,000,000.

The dairy industry is one of our most important industries.

We can not get along without milk, as it is a necessary article of diet. It is the most difficult of all our standard articles of food to obtain and handle in a satisfactory manner. Rosenau has well said that it requires scrupulous care "from pasture to pail and from pail to palate." Milk is our most perishable food, and

Digitized by Google

unless properly taken care of spoils more quickly than any of the fresh articles of food, such as fruit, vegetables, meat, etc.

Pure milk is both a safe and a clean milk. Milk may be safe as far as the danger of communicating and producing disease is concerned, but still it may not be clean. Pasteurized milk is safe but it is not always clean milk. Clean milk is milk produced under sanitary surroundings and conditions, but it may come from tuberculous cows or harbor the germs and infective agents of disease and not be a safe milk. As milk is usually consumed raw, it is essential that it be both safe and clean. Milk, therefore, that is not pure may be a direct menace to the public health.

The pure milk movement was started primarily to secure safe milk for infants, and the medical profession has taken the lead in educating and enlightening the public to the great importance of pure milk. The public is sadly in need of instruction as to the dangers which may exist in milk and in the methods of guarding against them. Milk has always been held up as an emblem of purity and the public does not realize the disease which may lurk in it and the dirt it conceals. It is more often a whitened sepulchre. Diseases of human origin known to be conveyed by milk are human tuberculosis, typhoid fever, scarlet fever, diphtheria, septic sore throat, dysentery and gastrointestinal diseases of infants. Bovine tuberculosis and foot and mouth disease are directly transmitted from the cow. The more serious and common infections in milk, therefore, are traced to human origin. Typhoid fever, scarlet fever, diphtheria and septic sore throat are the diseases which most commonly occur in epidemic form. An interesting and instructive account of a septic sore throat epidemic conveyed through the milk was reported by Dr. Overton in the July number of the HEALTH NEWS. Last August an epidemic of scarlet fever occurred in Albany and a careful examination by the health officer of all the sources of infection revealed the fact that most of the cases occurred in families receiving milk from a certain dairy. This source of infection was stopped and what might have been a very serious outbreak was promptly checked. These two instances are not at all uncommon, and illustrate a very important duty of a health officer.

Digitized by Google

The health officer in country districts, as in the larger cities, should investigate the milk supply in every communicable disease when an epidemic occurs. These cases can be charted on a map on which the milk routes are indicated.

Children suffer most in milk-borne outbreaks, because milk is their chief article of diet. Dr. Trask, whom we are honored by having with us at this Conference, gives the following suggestions in reporting milk epidemics:

1 The number of cases of the disease existing in the involved territory during the time covered by the epidemic

2 The number of houses invaded by the disease

3 The number of invaded houses supplied in whole or in part, directly or indirectly, by the suspected milk

4 The number of cases occurring in invalid houses so supplied

5 The number of houses supplied with the suspected milk

6 The relative proportion of houses so supplied to those supplied by other dairies

7 The time covered by the epidemic

8 The location of the case or cases from which the milk became contaminated

9 The relation of the original case to the milk

10 The time relation of the original case to the epidemic

11 The special incidence of the disease among milk drinkers

12 The elimination of other common carriers of infection

13 The effect upon the epidemic of closing the dairy or taking such measures as will eliminate possibility of milk contamination from the suspected focus

14 The finding of the specific organism in the milk.

Dr. Williams will explain to you in detail the Sanitary Code relating to milk regulations. The health officer in meeting these requirements will have a very complete record of the dairies supplying milk to his village or city. The public should have the benefit of this information. They do not know where pure milk can be obtained and the health officer should in some way make the records of his office available for this purpose. Several cities publish their milk reports and the standing of the dairies

Digitized by Google

In Syracuse any person can call upon the Department of Health and ascertain which is the best milk available in the section of the city in which he resides. The public in selecting the family milk should not be at the mercy of the best advertiser or of unscrupulous canvassers.

The consumer has certain responsibilities in the care of the milk. Much more thought and attention has been given to the production and distribution of milk than has been paid to its care after it has reached the home. The dealer may deliver pure milk properly bottled, and the householder may leave it for several hours on the doorstep. In the meantime the milk becomes warm; the street dust collects on the caps and lids of the bottles; stray dogs and cats may lick the tops and many other mishaps may take place and the best milk may be ruined.

Dr. Williams of Rochester made a very exhaustive examination of the condition and temperature of the iceboxes and refrigerators in his city. He found that the temperature was 50 degrees Fahrenheit in very few refrigerators and in the majority the temperature was between 60 and 70 degrees. It is absolutely impossible to keep milk sweet and clean at that temperature. Bacteria multiply with great rapidity when the temperature is over 50 degrees and placing the milk in the ordinary refrigerator gives a false sense of security. Milk should be placed directly on the ice. Cleanliness in handling, and ice in keeping are the two chief precautions to be taken by the householder. The watchword for the consumer is to keep the milk clean, cool and covered.

Pure milk is an important factor in the great problem of infant mortality and the milk question is one that demands serious consideration on the part of the physician and also the health officer. The health officer should be the best judge of matters affecting the public health and the public have a right to look to him for guidance in public health matters.

Over one-third of the deaths in infants under one year of age are due to disorders of the intestinal tract, and nine-tenths of these are in artificially fed infants. Most of these deaths occur during the hot summer months when the keeping properties of the milk are reduced and the vitality and resistance of the child are lessened. The child's digestive system is particularly susceptible

Digitized by Google

to infection in hot weather and the milk should be scrupulously guarded.

Dr. Osler is said to have remarked when a patient attributed to Providence the death of her bottle-fed baby from diarrhea: "Madam, God did not kill your baby; it was dirty milk."

In considering the question of infant feeding, we should remember that human milk is the only ideal food for human babies and that breast feeding is the only universal method of feeding infants. Unfortunately a very large number of the mothers of today are unable to nurse their babies more than a few weeks.

It is important for the physician to have a thorough understanding of the composition, character and variations of human milk, as upon it are based the rules for the preparation of cow's milk when used as a substitute. The chief differences between woman's milk and cow's milk briefly are: the reaction in woman's milk is less acid; the fatty acids which make up the fat differ in number and proportion; the proteid is over twice as large in amount as cow's milk and is very different in character; the proportion of lactalbumen to casein is as 5 to 4 in mother's milk and 1 to 3 in cow's milk. The casein in cow's milk coagulates quickly into large tough curds by the action of rennet and acid, while the curds in woman's milk are soft, loose and flocculent. The difference in the percentage of sugar is considerable, cow's milk having 4½ per cent. and woman's milk 7 per cent. The salts in cow's milk are about three times as abundant and consist chiefly in a larger percentage of some of the lime salts. The most important difference from the viewpoint of preventive medicine is in the bacterial content. Mother's milk is practically sterile when it reaches the baby's mouth and is fresh and pure, for the chances of contamination are very slight. Cow's milk, on the other hand, may contain many millions of bacteria, for there is a long distance from the cow to the baby and the chances of contamination are very great.

The Chicago Department of Health sometime ago published a cartoon entitled "The long versus the short haul," and portrayed graphically the various manipulations from the cow to the baby. It pointed out the fact that the length of the time for the milk to run from the cow end of the tube to the baby end of the tube in many of our cities is about thirty-six hours and that this tube is

Digitized by Google

open in many places so that the baby's food is frequently polluted. It also called attention to the fact that there might be a diseased cow or diseased man at the country end of the tube.

When the American Medical Association had its meeting in Saratoga Springs some twelve years ago, there was a symposium on the subject of "Infant feeding" in the section on Children's Diseases. In the discussion, Dr. Jacobi said that he believed "the greatest advance that had been made in infant feeding in recent years was in the production and popular demand for pure milk."

Even the purest milk when given to the baby in improper amounts and at irregular intervals can do an immense amount of harm. It is not within the scope of this paper to discuss the various methods of infant feeding. Scientific and successful infant feeding can be accomplished only after a careful study of the individual needs and digestive capabilities of each baby. The milk should not only be modified but it should be adapted for each individual case.

There are to-day, unfortunately, a large number of cities and villages in our State where it is impossible to obtain pure milk. It is confidently expected that the new milk code when its provisions are effectively, efficiently and intelligently carried out, will remedy this deplorable condition and will place pure milk within reach of every family in the State.

In this connection the following letter recently received at the Department of Health in Albany, is of interest:

"————, N. Y., *August* 18, 1914.

"*State Department of Health, Albany, N. Y.,*

"MR. HERMAN M. BIGGS, M.D.

"DEAR SIR — A short time ago you sent me a letter concerning my baby. And as there was so much help in the Papers you sent me and as my baby is sick I take the liberty of writing to you. I half been giving her cows milk Partly & the Breast Partly. But the cows milk is so Poor it isn't fit for a dog to eat let alone a little baby. Their isn't any cream to it to speak of & it has a funny taste Part the time & half the time it is sour when it is Delivered, but we half to Pay .7c a quart for it sour or sweet.

"I am not the only ones that complain of the Poor milk.

Digitized by Google

"I should think a milk man would need to wear clean clothes when he is handleing the milk at least anyway.

"I try to keep my Bottles and Nipples clean. I use the Hygeia kind so I can be sure of their being washed Perfectly clean.

"I tried given her Eskay's Food but she would not take it. I am now given her condinsed milk with a little lime water.

"I think the Infant Welfare Campaign is a lot of help but first I think the Health Department should get after the *dirty* milk men who peddle Poor milk, as that is certainly what we have in ————, New York.

"Very truly yours,
"————"

The Health Officer is the proper and legal custodian of the public health. He is especially fitted to supervise the milk production in his community and his knowledge of the sources, nature and effects of conditions inimical to human life equips him with the most effective means of eliminating the dangers lurking in impure milk.

COMMISSIONER BIGGS—The organization in New York City known as the New York Milk Committee has been a large factor in the improvement of the milk supply of New York. Dr. Williams was a member of the New York Milk Committee before he became Deputy Commissioner of Health, and he has given a great deal of attention to the problems connected with the production of milk. He will explain to you somewhat in detail the new milk regulations of the New York State Sanitary Code. Probably most of you received those regulations just as you were leaving home, as they were mailed on last Saturday. The regulations go into effect on November 16.

Digitized by Google

THE MILK REGULATIONS OF THE NEW YORK STATE SANITARY CODE

LINSLY R. WILLIAMS, M.D.

Deputy Commissioner, State Department of Health

You have all realized the economical importance of milk and its use in every household, but until comparatively the last few years the realization of its dangers has not been fully appreciated. That this has been put before us to-day in a logical and masterly manner by Dr. Park is a source of great gratification, I am sure, to all of us. I am sure that we of the Department staff are also grateful to Mr. Kelly in so admirably describing the method and importance of scoring dairies, a matter which has been wholly unfamiliar to most of us. On the importance of pure milk as a food for infants Dr. Shaw has given us additional information on a subject with which we are generally more familiar. It has been left to me to present to you the new regulations of the Sanitary Code on the subject of milk and cream, whose purpose is to prevent the dangers of milk-borne infections of communicable diseases, and the causation of diarrheal diseases by the taking of dirty milk by children.

The regulations on milk and cream adopted by the Public Health Council will take effect beginning November 16 next. Their first object is to give to the health officer and the State Commissioner of Health the power to know *where* the supply is; *what* the supply is; its method of distribution.

In order to know where milk is produced it is necessary, and the Code will require, that each individual who delivers milk in any city or village must have a permit issued by the health officer, and if proper conditions are not maintained — either at the dairy or at the distributing station — such permit may be revoked. In order to receive a permit the dealer must make a written application upon a form prescribed by the State Commissioner of Health. This application must contain definite information stating where the milk and cream is produced, and approximately how much is furnished by each producer.

Digitized by Google

In order to know definitely what the supply is, the Code will require each health officer to know how such milk is produced in order to protect his village or city from milk-borne epidemics. The actual sanitary inspection and scoring of every dairy farm is the only method that gives definite information of the conditions of production (as has been so well described to us in a previous paper), and the regulations require that the results of such inspection shall be scored upon a score card prescribed by the State Commissioner of Health. Such inspections should be made at frequent intervals, depending entirely upon the condition of the dairy where the milk is produced. The Code, however, requires that it shall be scored at least once in each year and that a new permit may not be issued unless the dairy is scored before the 31st day of March each year, unless another date is designated by the local authorities, as advised in Regulation 1.

When such an inspection is made the dairy must score not less than 40 points on the score card, and these 40 points include the percentage for equipment and method, and unless a total of 40 points is scored the milk and cream produced at such dairy must be excluded by the health officer and must not be sold. In the event of one dairy farm delivering milk to two or more dealers in different cities or villages the health officer may, in his discretion, accept the inspection and scoring of the health officer of another municipality.

The regulations require that the milk and cream shall be kept only under sanitary conditions and that the permit must be displayed in cities and villages where the milk is offered for sale; that the receptacles shall be kept in a sanitary condition, and any receptacle when found by the health officer or his representative in a dirty condition the health officer may seize this can, bottle or other receptacle as evidence, and it may be so marked or destroyed that it cannot be used again to contain milk or cream for sale. The store where milk or cream is sold must at all times be kept in a sanitary condition, and this also requires inspection by the local health officer or his representative.

It has happened on many occasions that milk is brought to a city or village in forty-quart cans and dipped into a bottle and sold as bottled milk, increasing the likelihood of contamination

Digitized by Google

and deceiving the public. This is also done occasionally in hotels. Such a procedure is contrary to the best interests of the public, and Regulation 9 states that all milk or cream served or sold or offered for sale in bottles shall be bottled at the place of production, or at the collecting or distributing station, and that each bottle shall be capped and show the name of the producer or dealer and the place of bottling.

The regulations also definitely classify milk. You know with what interest the members of the Grange have awaited the grading of apples, yet there is rather widespread objection on the part of many farmers against the grading of milk. The grading of milk is essential for the improvement of the milk supply, and in order to prevent confusion the grading has been made almost identical with the grading of the New York City Department of Health. New York City receives a large majority of the milk produced for market in the State of New York and grading has been proven a necessary measure to the New York City Department of Health. In Regulation 13 the designations of milk and cream are restricted, the terms being restricted to "Certified" and "Grades A, B and C raw and pasteurized," and the most satisfactory method of considering the grading is to refer to these particular regulations. See Regulation 13, Chapter II, Sanitary Code.

The term "Certified milk" was first used by Dr. Henry L. Coit of Newark, N. J., and this term was copyrighted by Stephen Francisco of the Fairfield dairy and now may be used only after certain definite steps have been taken and after issuance of a certificate by a county medical society.

In the different grades you will note that the raw milk is of a higher standard in each grade than the pasteurized milk, and many of you know that "Grade A" milk is only produced on a very limited number of dairy farms, and that such milk retails in smaller cities for from twelve to sixteen cents a quart, and in larger cities from sixteen to twenty-two cents a quart.

In the grading a number of specific requirements are made which refer to the danger of tuberculosis in cattle, the bacterial count, the scoring of dairy for method and equipment, the duration of time allowed before delivery, and the designation of the grade on the cap or tag.

Digitized by Google

Tuberculosis

In "Grade A raw" the herds must be tested with tuberculin, and reacting animals excluded. The tuberculin test will be performed by the Department of Agriculture upon application, or may be performed by privately employed veterinary surgeons. In "Grade B" physical examination of cows for tuberculosis may be performed in a similar way, and cows showing physical evidence of tuberculosis or other disease must be excluded from the herd.

Bacterial counts must be made by the county or municipal laboratory, or a laboratory approved by the State Department of Health. Where it is impracticable to make a bacterial count the regulation states that the local health authorities may, in their discretion, grade the milk and cream according to the dairy score, with the exception of "Grade A raw and pasteurized."

The scoring must be performed by the health officer or his representative, who must also see that the milk is delivered within the specified time, and that the containers are properly capped or tagged, and in case of a protest the scoring may be done by a Sanitary Supervisor.

You will note that "Grade C" both raw and pasteurized, does not require a bacteriological count and requires the minimum scoring. In New York City such milk, when marketed, must be stamped "For cooking only." In other words, milk of such low grade as "Grade C raw" is not considered by the health officials of the city of New York as safe for human consumption.

It is fully realized by the Council that if such stringent regulations were passed as exist in the city of New York it would make it practically unlawful to sell milk in the majority of smaller cities and villages throughout the State. It is earnestly hoped that before many months pass the milk supply of cities and villages will have been so improved by the grading of milk that it will be possible to either abolish "Grade C raw" or put "Grade C raw" on a higher standard. The health officers of our larger cities and others who have been consulted during the formation of this chapter of the Sanitary Code feel that this minimum requirement is far too low, not realizing that any higher standard would practically make it illegal to sell milk

Digitized by Google

in many localities. They have also suggested that if the standard is so low that milk which is not now being shipped to New York and considered unfit for human consumption in that city will be sold in the smaller municipalities. This, however, is being done at the present time, and by raising the standard throughout the State will tend to diminish the sale of milk now not allowed to be sent to New York City, rather than to increase it.

Eight years ago an ordinance was proposed by the Board of Aldermen of the City of New York, which by its enactment would have prohibited the sale of any milk in the city of New York, which was not pasteurized. At that time the majority of medical experts was still imbued with the teaching of Koch that tuberculosis in man and tuberculosis in cattle were two different diseases and were not intercommunicable and opposed general pasteurization. It has been conclusively proven to the satisfaction of nearly everyone interested in the subject of tuberculosis by the British Royal Institute, by Dr. Park of the New York City Laboratory, and others that tuberculosis in cattle is transmissible to man. This has caused the pendulum to swing towards pasteurization, realizing that pasteurization when effectively performed would destroy the tubercle bacilli. Since that time it has also been shown conclusively on numbers of occasions that epidemics of typhoid fever, scarlet fever and septic sore throat were milk-borne in character, and that they might have been prevented in a large degree by the pasteurization of milk. When pasteurization was first performed almost any heating of milk was called pasteurization, so that it has become necessary to definitely define pasteurization, which is now done by what is known as the "holding process," the milk being received in large containers and kept at a definite temperature. Regulation 12 defines just what pasteurization means and at what temperature it shall be performed. See Regulation 12, Chapter II, Sanitary Code.

A few municipalities have already enacted local ordinances for the grading of their milk supply, and the latter part of Regulation 13 allows such ordinances to continue when in their judgment the local authorities feel that their own system of grading should not be changed, and Regulation 14 allows the health authorities of any municipality to make the regulations enacted

Digitized by Google

by the Public Health Council more stringent, or to add to them in any way not inconsistent with their provisions.

The enforcement of these regulations undoubtedly requires greater activity and a greater expenditure of time by the local health officer, and increased expenditure by his local health department; but let us realize that the proper enforcement of these regulations will, without the slightest question, cause a diminution in the amount of scarlet fever, diphtheria, septic sore throat, typhoid fever and diarrhea in children. How much improvement it will have on the subject of tuberculosis one cannot at this time foresee.

We have heard from a great many cities, and from a great many towns, from all kinds of tax-payers, that they don't feel entirely satisfied with the Public Health Law; that they can not see that the health officer is doing anything more than he did a year ago, and they feel that the law ought to be repealed. There were bills introduced last year to repeal the law, and to repeal that part which refers to the ten cents per capita payment. And as I remarked this morning, the health officer will have to show that he is doing his full duty, that he is carrying out the provisions of the law, and following out the provisions of the Sanitary Code, and of these particular regulations in regard to milk which will do a large part in diminishing the amount of disease and the amount of deaths in this State, especially in scarlet fever, typhoid fever and possibly a considerable amount of tuberculosis.

Digitized by Google

Sixth Session — Thursday, September 17, 1914, 10 a. m.

The Conference was called to order at 10 A. M., Linsly R. Williams, M.D., Deputy Commissioner of Health, presiding

THE HEALTH OFFICER AND THE SANITARY SUPERVISOR

LINSLY R. WILLIAMS, M.D.

Deputy Commissioner, State Department of Health

The fundamental changes in the Public Health Law of the State were recommended by the Public Health Commission appointed by the Governor. This Commission made a study of the administration of the Public Health Law of the State and found that there was no Sanitary Code in a large number of towns and villages, that the Board of Health frequently did not meet in either towns or villages, and that the health officer in many instances was compelled to use his own judgment and what little authority he dared and frequently without any legal support. The Commission determined that there should be a uniform system of health regulation throughout the State, and felt that it was necessary that such regulations should be drafted by a board of scientific men who would have no administrative duties.

A Public Health Council was recommended in order to draft these sanitary regulations. Two criticisms have been made upon this method of passing sanitary regulations. First, that the Council was unnecessary and that all the regulations could be drafted by the State Commissioner of Health. Second, that the Council was usurping the privilege of the Legislature in drafting regulations which were State-wide in nature and which were in fact law.

To the first objection the answer is that no one individual should be entrusted with the authority of drafting laws which may be so sweeping in their nature, and our system of government does not provide that one individual shall execute the laws which he himself has enacted.

In answer to the second criticism that the Legislature would

Digitized by Google

give part of its own function to the Public Health Council, it is to be noted that this has frequently been done in the past in giving to city, town and village boards power to pass local ordinances, and similar powers were given to the Industrial Board of the Labor Department — a Board similar in its function to the Labor Department as the Public Health Council is to the Department of Health.

The recommendations of the Commission were adopted and enacted in chapter 559 of the Laws of 1913.

The Public Health Council as you know has already drafted regulations on communicable diseases, milk and midwives. The regulations on milk were spoken of at the meeting yesterday morning, and those on midwives go into effect on November 16, 1914; the milk regulations on November 16, 1914, and the date for the enforcement of the labor camp regulations has not as yet been set. The regulations of the Sanitary Code will be gone into more in detail by the following speaker.

It is left to the health officer and the sanitary supervisor to see that the Public Health Law of the State is administered, and let me assure you all at the present time that neither the Public Health Law nor the Sanitary Code is to be construed by the health officer, the physician or any other individual. The Sanitary Code is a part of the Health Law of the State, and is construed only by the Public Health Council or the Attorney-General or by the courts. The health officer cannot in any way modify the regulations. One health officer, who has been up on charges, has stated that he allowed a patient with scarlet fever to be released on the twenty-first day because he did not believe that the Sanitary Code was meant to be so explicit. Two health officers have been forced to resign under charges for violating the Sanitary Code. The reasons in these cases have been made known to you. Another health officer who transferred a case of scarlet fever from one village to another during the active stage of the disease promptly resigned when an investigation was begun. Another health officer wrote us a letter instead of telegraphing, because it was Saturday afternoon and he did not suppose that we would be open on Sunday. He was severely reprimanded.

When the sweeping amendments were made in the Public

Digitized by Google

Health Law certain specific duties were placed upon the health officer, which are definitely stated under Section 21-b, which I will read to you.

Section 1 requires that you should maintain a continuous sanitary supervision over your territory. This means a house to house canvass, and the more complete you make it the more valuable it will be to your community. A number of health officers have objected and said that it would not be possible to make a house to house examination of the territory in their jurisdiction. Notwithstanding the objections of many, a number of health officers have made complete surveys, indicating the number of births and deaths, cases of communicable disease, character of the house and outbuildings, situation of the well and privy, and the character of the milk supply, etc. In a number of places various health officers have been using some blanks furnished by the State Department, which will no doubt be modified and in the course of time each health officer will be supplied with blanks upon which to make a sanitary survey.

The sanitary survey should include two main parts.

First. It should contain an annual report to the Board of Health. This should contain a list of the births, deaths, communicable diseases, expenditures, nuisances, their abatement, complaints, etc. The following paper will take this up in more detail.

Second. The sanitary inspection and report of each house and farm comprises the second part.

The third paragraph of this section requires the sanitary inspection of all places of public assemblage.

The fourth is to promote the spread of information as to the causes of prevalent diseases, nature and prevention. Nothing will spread this information so rapidly as the issuance of bulletins stating the number of cases of disease in your locality, from time to time. In larger cities bulletins are posted stating the number of cases of communicable and other diseases, with weekly reports of deaths. In most rural districts marked objection is raised to giving out the information that there is a single case of communicable disease in that district. This is based on the old idea that what you don't know does not injure you, but there is no better method of getting rid of communicable diseases than for the public to have the knowledge that they exist in their midst.

Digitized by Google

Fifth. Steps should be taken to secure the prompt and full reports of communicable diseases by physicians. This requires constant watchfulness on your part, and when physicians continue to be delinquent they should be reported to the Sanitary Supervisor, and if they continue to be delinquent, prosecution shall be instituted against them. In order to secure prompt and full registration of births, physicians should be urged to cooperate with the health officer.

Sixth. The Public Health Law and Sanitary Code should be enforced and the Annual Conference and local conferences should also be attended by the health officer. It is an astonishing fact that so many health officers are willing to violate the law by being absent from the Annual Conference or from the local conferences. The local conferences have been attended by about seventy-five per cent. of the health officers, but rarely more than half of the health officers have attended the Annual Conference. This is not a record to be proud of.

In order to better enforce the provisions of the Public Health Law, the State has been divided into twenty sanitary districts and a supervisor appointed in charge of each district. The supervisor is also given specific duties to perform, which I will read.

These specific duties require the supervisor to visit the health officer and to have access to his books, and charge him with the duty of assisting the health officer in enforcing the law. In many localities personal differences militate against the successful operation of the law, as often happens when a prominent citizen is at odds with the health officer. An occasion arose last winter when the president of the village refused to allow his house to be fumigated after scarlet fever because he did not like the health officer. The sanitary supervisor in such an instance can immediately be called in and by use of State authority promptly enforce the law. In many instances it is extremely embarrassing and difficult for the health officer to enforce the law and often impossible for him to do so, owing to lack of support given him by the local board of health. The sanitary supervisor may assume all responsibility and insist that the provisions of the law be carried out. The sanitary supervisor, although exercising supervision over the work in his district, is expected to be tactful and

Digitized by Google

forbearing and to assist in every way possible, and not to be dictatorial except when necessity arises. He is expected to stimulate the health officer to renew his efforts, and to be in constant touch with those who need his help and advice.

The supervisors bring the health officer in far closer contact with the Health Department at Albany than they ever were before. The Department expects the laws to be administered promptly, and urges the health officer to do all he can to increase his efficiency in his own neighborhood in order that the health and lives of our citizens may be more protected than they have been in the past.

DISCUSSION

VOICE — Who was the author of the blank the Educational Department sent out "Eye and Ear Defects"?

DR. WILLIAMS — I think that was issued by the Department of Education upon the recommendation of the State Department of Health, but when it was done I do not know. It must have been before we came into office.

VOICE — It has been criticized.

VOICE — What position do you take on parochial schools?

DR. WILLIAMS — I haven't the slightest feeling but that the children of parochial schools are the same as far as the physical examination goes.

VOICE — What about the law?

DR. WILLIAMS — I do not think it mentions it at all.

VOICE — The Attorney-General gave an opinion, I thought.

DR. WILLIAMS — If he did I do not recall it. I know he recently gave an opinion that the parochial schools should be regarded the same as the other schools in regard to vaccination.

VOICE — If a child has been vaccinated seven years before he was allowed to enter school this fall would you consider he should be revaccinated?

DR. WILLIAMS — Yes.

Digitized by Google

VOICE — What about the child who has been vaccinated five or six times and it has not taken?

DR. WILLIAMS — If you use vaccine from the New York City Department of Health on three occasions and it does not take you can consider that that child has been vaccinated.

VOICE — I have a case where a child went into the city of Binghamton, was vaccinated twice and neither time it took. They issued him a certificate. Is that good?

DR. WILLIAMS — I suppose the child would have to be admitted to school, but it is not a satisfactory vaccination.

VOICE — What about when four are vaccinated at one time, three work and one doesn't. Revaccinate him with virus at the same time that you vaccinate another and it does not work. You do that two or three times and it doesn't take. Do you consider that child immune?

DR. WILLIAMS — We have just sent out a letter to the Directors of the Divisions and to the Sanitary Supervisors explaining as nearly as we can just what we feel about the subject of vaccination. The law does not specifically state what it means and it is entirely left to the Educational Department to administer, and what methods are going to be the successful methods I can't predict, but I think it is going to be a question of court procedure and after that is over I think it is going to be a question of legislation next winter. We consider that a child who has two good scars which it has received at different times, or an adult with two good scars, is immune and need not be revaccinated. We agreed on that and the question was brought up that a child might be vaccinated and have two or three scars as a result of that vaccination. That is not a common thing. We feel that if you use the New York City Health Department vaccine for three occasions and it does not take on any occasion that then you have an immune person to deal with. Now, you do not get a "take" on a good many cases because the child or adult is allowed to put on his shirt before the serum is dry and it rubs off in a very few minutes, or they put on a light

Digitized by Google

bandage or light gauze dressing and that rubs the virus and the serum away from the site of the vaccination and rubs it on the skin somewhere else. So your technique has got to be good in vaccination or else you entirely miss the object you are trying to attain. Some physicians have given a child a certificate of vaccination as soon as they have scratched the arm and rubbed in some virus. We state in our letter that a certificate should be given not earlier than the eighth day, which requires the child to visit the physician a second time, and then the physician may judge whether the virus has taken or not. Therefore, a certificate given on the date of vaccination is worthless.

VOICE — You do not have to state in the certificate whether it works or not, do you?

DR. WILLIAMS — The interpretation of laws cannot be left to the individual. You would be surprised to know the number of righteous and God-fearing individuals who are writing in to the Department of Education and the Department of Health urging them not to obey a certain law. If a Department is placed in authority to administer a law for private citizens and then disobeys the law at the urging of those citizens it would be a pretty sad kind of government. If you object to a law do not go to the Department; go to the Legislature.

VOICE — If a certificate states that a child has been successfully vaccinated at a certain time — is that satisfactory?

DR. WILLIAMS — Yes, but if we say a child has been vaccinated I think it means with all of you that a child has been successfully vaccinated.

VOICE — Will a certificate given a child for, say five years, be good during their time in school?

DR. WILLIAMS — Not if you want to protect the child against smallpox.

VOICE — In regard to medical examination — the Board of Education in my district has an examination of all school children.

Digitized by Google

DR. WILLIAMS — The inspection of schools is left to the health officer. He ought to include in his annual work the inspection of all public buildings.

VOICE — But does that include the inspection of the school once a month? Should not they go further with the Medical Inspection Law than examination of the children?

DR. WILLIAMS — Yes.

VOICE —All that examination is that the child is examined at the beginning of the year. I mean more often than that.

DR. WILLIAMS — Of course the object of the law is to see that some of the defects are corrected.

DR. BALL of Cortland — The Education Law provides that whenever upon an investigation a child shows symptoms of various communicable diseases, the child shall be sent home in a safe and proper conveyance, and the health officer notified. The question arises where they have employed a physician to make an examination of school children — perhaps the district school being a part of the town — is that investigation of the child to be left to the school teacher or are they to call in the school doctor who has been paid to make the physical examination of the child, or must the health officer come and make the investigation? It seems to me that all health officers want to do all they have the strength and time to do in their work, but they are dependent on their practice for a living more than their salary, and they haven't always the strength or time to devote to that work, and it seems that perhaps that causes more trouble than anything else. The average authorities simply want the physician to examine the school children and then they want to force the health officer to do all the rest of the work. That is the attitude of the school boards.

DR. WILLIAMS — Of course, Dr. Ball, the one thing that stands out in all the discussions about schools is that the law requires the health officers to do it without extra compensation. There is a strong movement on foot throughout the State to repeal that Educational Law and to put that work on the Health officer without extra compensation.

Digitized by Google

DR. BALL — Personally this does not affect me, because I am in a small city and I do the work because they ask me, not because I feel I have to under the law, because they employ another man, but I can see in the rural districts how it would be.

DR. WILLIAMS — It is a very difficult thing, and I think no one appreciates it as we do, but as I spoke yesterday, I think it was on the method in which to get your salaries increased, I can only see really two ways in which it can be done. One is to increase the size of the health districts and diminish the number of health officers, and the other is for the health officer to make himself individually so valuable that the people will demand that he do more work, and pay him for it.

VOICE — Who has the enforcement of the Boylan Law?

DR. WILLIAMS — The State Health Department.

VOICE — And the provisions are that a person may be committed by any magistrate to a State Hospital or Sanatorium?

DR. WILLIAMS — Licensed by the State Hospital Commission.

VOICE — That has been tried in Binghamton, and the patient was refused admission to the State Hospital.

DR. WILLIAMS — How long ago?

VOICE — Within a month.

DR. WILLIAMS — The Attorney-General gave an opinion recently that the State Hospitals should take these patients. The State Hospital authorities refused to take these patients on the ground that chapter 87 of the Insanity Law states that no epileptic or confirmed drug habitue should be committed to the State Hospital for the Insane, but as happens in practically every instance the more recent legislation is usually given the precedence, and the Attorney-General holds that the State Hospital authorities shall receive them. Now if there is insufficient accommodation the Superintendent of the State Hospital still has the power to refuse the patient as an unsuitable case for the institution.

Digitized by Google

VOICE — One of the State Hospitals said there were no objections.

DR. WILLIAMS — Well, it is a very difficult thing to work out. The Boylan Law is like a number of other bills foisted on the Department without an appropriation and gotten a great deal of notoriety, and it is absolutely impossible to get anywhere unless you have a certain number of people you can employ to enforce it.

VOICE — Do I understand that the health inspector must inspect all children and make a physical examination.

DR. WILLIAMS — That is what the law requires.

VOICE — The original instruction was that the Health Inspector was not to take the business away from any other physician, but the family physician could make an examination and certify to it.

DR. WILLIAMS — There are two different questions which come in there. The school examination was first left to the Health Department, and the Health Department sent out circulars of instructions as to how the health officers should do the work. Then the Educational Law was passed and the school authorities empowered to make their own examinations. All the circulars sent out by the Health Department are now null and void. The feeling that I have is that we have got to go in our public health campaign a great deal further. We will have to have in every city of any size school nurses to follow up these cases; to inspect the children in the morning to see if they look well or not. We will have to have nurses in the rural districts and the rural schools. We will have to have six or seven isolated and far removed school houses made into one school with proper sanitary conveniences, and have that school house inspected daily by a nurse. That is some years off, but it is going to be. Suggest the problem to your townspeople; tell them what the children need; tell them how important it is to get it done, and say that if operations are to be done there must be some place to do them.

Digitized by Google

VOICE — How far should dental defects go in the attendance of a child at school?

DR. WILLIAMS — None of the defects should condemn the attendance of a child if it is fit to go to school, but every defect a child has may militate in some way against its power to receive proper education. If you could see the difference in those children who have good teeth and those who have bad teeth you would be surprised. When you go around through the State you will find that teeth have been neglected by our fathers owing to ignorance. If we could bring up a generation of school children to take the proper care of their teeth it would make a diminution in disease.

I did not take up all about vaccination. There is one particular of it which will bring up a good deal of opposition. It comes to the question of who should issue a certificate of vaccination and under what circumstances should such a certificate be accepted. Suppose a patient of yours has a little child of nine or ten who has a congenital heart defect. You feel that any slight febrile disorder might militate against the child's chances for health or life. Do you want such a child vaccinated? You have a child who has had typhoid fever in the summer; is thin, run down and has at times a trace of albumin in the urine. You can consider a number of other instances of ill-health where it is perfectly justifiable in your own judgment that that child should not at the present time be vaccinated. If any other physician gives a certificate that in his judgment the child is not in a suitable condition to be vaccinated your immediate thought is that that child is a perfectly healthy and normal child, but are we going to assume that physicians who give such a certificate are acting in bad faith? Should we not as professional men accept their statement as made in good faith? You may know and I know certificates are given in bad faith at times, and we know that perfectly normal healthy children have such certificates given them. We have suggested that when such a certificate is given the physician should state what the conditions of ill-health are that prevent the child at that time from being vaccinated, and present that statement to the school authorities. Let them accept it or not as they see fit. They may ask the school physician or

Digitized by Google

the health officer what his judgment is. Some have said in criticism of that: "Why, no, don't do that. Have the doctor sign such a statement and then have it countersigned by the health officer." Now in some places that is going to mean nothing more than that the physician is going to have an argument with the health officer.

VOICE — Why can't you get Olean to agree to vaccination?

DR. WILLIAMS — I should like to know that myself.

VOICE — Can't they withhold the public money?

DR. WILLIAMS — They can and I think they will.

VOICE — When you get smallpox what do you do then?

DR. WILLIAMS — The only thing you can do is put it up to the State Health Department.

VOICE — Supposing the chairman of the school asks the teacher if she has been vaccinated and she says "No." Has he any duty to perform when she says she does not want to be vaccinated?

DR. WILLIAMS — The law applies to her the same as to the child. If the trustees want to perform their duty they can turn her out. Let me tell you something else. It has been criticized by the antivaccinationists that this law operates against a certain definite class of individuals; against a school child of certain age and in certain schools; it does not affect the private school child; it does not affect the child under school age and if it is a menace to public health to have children of school age unvaccinated, it is a menace to public health to have children of private schools unvaccinated and children under school age unvaccinated. I think that is a perfectly just criticism. They also say that smallpox is more fatal before the school age than in the latter periods of life. That is true. The school child is not so liable to die of smallpox as the infant. Now let me call your attention to the Massachusetts law which gives the State Commissioner of Health or the State Board of Health the authority to order the vaccination of every individual in a certain locality when in his judgment it is necessary, and it is also in his power to isolate such

Digitized by Google

a community. Now the law does not state that the State Commissioner of Health in New York State could isolate such a community, but we perfectly well could under the general provisions of the Public Health Law isolate a community and insist that no trains or trolley cars go in and out. I want you to think about this legislative part of it because the Vaccination Law is going to be earnestly fought next winter and I want you to consider the pressing points of it — whether you want a wider and better law, or whether you want that law limited; whether you want it to remain in the hands of the Department of Education, or whether you want it in the hands of the Department of Health, and whether you want discretion given to the board of trustees or whether you do not. It has been on the statute books since 1863, reenacted in 1893 and reenacted in 1913, with the last revisions of the Public Health Law. There has been a good deal of opposition to vaccination, and the antivaccinationists say that it causes cancer, lockjaw, tuberculosis, etc. — I think almost everything in the medical dictionary except pregnancy. The circulars sent out by the Antivaccination League, practically make the statement that if you vaccinate a person and any time within fifteen years that person has anything the matter with him the vaccination was the cause. Up at Gloversville there is a boy who was vaccinated thirteen years ago. About four or five weeks ago he caught one of his fingers in a corn-sheller and got it infected and had tetanus and died of it. He died of vaccination, of course. I speak with some heat when I see such false allegations made against it. I speak with a good deal of feeling on the other hand. The physicians — some of them — vaccinate a child and then they put a corn plaster over it and they bind it up with sterile gauze and then they put some zinc oxide and other plaster on the top of it, and then they put a bandage from the elbow to the arm and say "If any dirt gets in there it is beyond me." If the child does not get tetanus after that it was not the physician's fault. I do not think it is appreciated that tetanus germs grow in the absence of oxygen. If you put on a dressing you must put on a dressing so that air can get to it. If you want to put on a dressing the best kind is none if you don't know how to put one on. There have been thousands of successful

Digitized by Google

vaccinations performed by allowing the vaccine to dry thoroughly — twenty-five minutes to do it — and then if your patient has on a clean shirt and clean clothes in nine cases out of ten they won't have any trouble from it. If you can put on a bandage of clean gauze and put it on loose so it bulges out in the middle, with a couple of pieces of plaster across so it leaves a place where you could stick your finger, you protect it and you protect the patient from scratching, but you may pass it on to someone else that tetanus may come when the thing is protected with air-tight vaccination shields covered over with gauze. There have been cases in the State that have died of lockjaw as a result of vaccination.

Are there any more questions on vaccination?

VOICE — In our town we had a little smallpox and we vaccinated about 1,300 people. Among a lot of school children I vaccinated a high school girl. She never got well and her mother laid her poor health to the vaccination, but when the proper time came around the girl was pregnant. That was the trouble.

VOICE — Are we to accept certificates from physicians that a child is in such a physical condition that vaccination is out of the question?

DR. WILLIAMS — I don't think you are qualified to accept such a statement. He must state why.

VOICE — In a letter that Dr. Finegan wrote to the school authorities he said that the law makes no provision for anything like that, but in his private opinion there should be.

DR. WILLIAMS — I think the thing to do is to ask physicians to state why the child is in poor health; what the condition is. I think just the statement that it is in poor health is not a good reason.

VOICE — Have you the right to tell what is the matter with a patient? Suppose he had some complaint he didn't want known?

DR. WILLIAMS — Of course you can't noise around everything that you know about your patients, but when a patient is employed — and it is going to be more and more true with the Workmen's Compensation Law — that when he is ill his employer will

Digitized by Google

ultimately know of it, and in order to receive any compensation he has to submit to an examination. Miss Lathrop made an excellent point the other day — I do not know whether it was publicly or privately afterward. She said, "The people from the country do not realize what inspection and medical examination are going to mean for their health. They oppose it because they do not appreciate what it means." You know perfectly well amongst your patients that there are very few of them who come around to you once in a while to get sounded. You know that a great many of them have an illness for months and months before they come and ask you about it, because they fear you will tell them there is something the matter with them. It seems that many would rather die in ignorance of the disease than to be saved.

VOICE — May I suggest that it seems to me that when children are not well enough to be vaccinated they are also not well enough to attend school?

DR. WILLIAMS — That is perfectly true in the majority of cases, and if they were in certain cities like Providence and some other places they would have a separate class and be taught separately, but in the country that is not done.

VOICE — Would not the children's interests be better conserved if they were excluded from school for a month or two?

DR. WILLIAMS — I think very likely.

VOICE — Could not they be excluded as not being fit for school under this school inspection? Is not that the object of it to a certain extent?

DR. WILLIAMS — I do not know. I must admit there is a certain amount of justice for both points of view, but I feel we are getting both. You all know it from the press. We are getting a great deal of cooperation in the matter of vaccination, and we know that there have been a good many thousands vaccinated. Dr. Meader has secured an approximate number. How many, Dr. Meader, vaccinated last year?

DR. MEADER — One hundred and eighty thousand vaccinated last year.

Digitized by Google

VOICE — The parents are up against the proposition that the truant officer will come after the children.

DR. WILLIAMS — Of course the truant officer, in a great many places, won't come because the trustees won't ask him.

VOICE — Speaking about deaths from vaccination, how many have been reported due to vaccination?

DR. WILLIAMS — Two.

VOICE — What is actually required by the State? Suppose a child is vaccinated once and it doesn't work.

DR. WILLIAMS — The Educational Law requires evidence of vaccination. It does not state how the evidence is to be submitted. It does not say successfully vaccinated.

VOICE — Any other vaccine recommended beside New York City vaccine?

DR. WILLIAMS — It is the only vaccine which is effective in practically 99 per cent. of the cases.

VOICE — Does not the Department of Health recommend any but the New York City virus?

DR. WILLIAMS — The New York City virus is the best without any question. You can get it now by sending to the New York City Laboratory and they will send it to you. It is about the cheapest you can get.

VOICE — I recommended it to the Board of Education and they made a contract where they could get it for nine cents, and there hasn't been a single case where it hasn't taken.

DR. WILLIAMS — Someone asked whether the State provides vaccine. The State does not. They have never had any appropriation for manufacturing it, and it is questionable whether we will take up the manufacture.

VOICE — In reporting cases of communicable disease, for instance, diphtheria, which are we to give preference to, the physical diagnosis or the bacteriological? I had one case on a dairy

Digitized by Google

farm which had clinical signs but all reports from the State bacteriologist were negative.

DR. WILLIAMS — I don't know of anything which has interested me as much as the question which has just been asked. It is perfectly evident that there may be many cases of tuberculosis — active tuberculosis, definite tuberculosis, that never would show tubercle bacilli. It is perfectly evident that we may have a case of typhoid fever clinically and never be able to get a widal and never be able to discover the typhoid bacilli in the excreta or urine. So when you find the laboratory does not confirm the diagnosis, there are two sources of possible error. One that the clinical diagnosis is wrong, although you make the same diagnosis the next time and it may be correct; and the other that there is a very small chance of there being an error in technique or a specimen being mixed, which does not happen very often.

VOICE — The next question is in a case of diphtheria with negative results, with the physical symptoms subsiding, what time shall we release that case? Suppose we have two negative tests during the run of the disease?

DR. WILLIAMS — Let that patient out right off if he is well enough. The diphtheria bacilli occur very readily, and if you have clinical diphtheria without the diphtheria bacilli you have a diphtheritic sore throat due to other organisms than diphtheria, and the picture is identical. Please do not let any of us forget that the converse is just as true — that you may get a clinical picture of tonsilitis, simple tonsilitis caused by diphtheria bacilli, and when you find that physicians do not believe that diphtheria bacilli can cause an ordinary sore throat, when you find they do not believe that diphtheria bacilli can cause tonsilitis, they are going to get into trouble.

VOICE — How long would you wait before allowing a diphtheria carrier to go about?

DR. MEADER — If the throat is normal and shows no evidence of inflammation after five weeks the patient is allowed to go about. There are certain restrictions on that, which I will take up with you later.

Digitized by Google

VOICE — We had a discussion over a smoke nuisance. A man in our village runs a manufacturing establishment and burns soft coal.

DR. WILLIAMS — When you get a question of a smoke nuisance is it not purely a mechanical question? This man is manufacturing something in the village, burning soft coal and making a lot of smoke. If he burns hard coal we know the little consumer has to pay so much for that. How much of a nuisance is it? We have to consider it in dollars and cents.

Dr. Meader has a few remarks to make on the Sanitary Survey. I think you had better treat him as you did me with interruptions and questions.

Digitized by Google

THE SANITARY SURVEY AND COMMUNICABLE DISEASES

F. M. MEADER, M. D.

Director, Division of Communicable Diseases, State Department of Health

This is the first I have had an opportunity to talk to you men. When all the Supervisors are appointed we shall wish to meet you again and take up these matters in detail.

Dr. Williams has asked me to take up with you the sanitary survey. That, at the present time, is not in its final form. There are about a dozen health officers throughout the State who are working on it. Until we get the result from that experiment the following is suggested to you for a sanitary survey.

At the beginning it was felt that the health officers did not have money enough to pay them to spend very much in examining all of the houses in their jurisdiction, so that a form which would give an idea of the local statistics of their places would be all that we could expect this year. We suggest that you take a piece of paper and draw four lines down the sheet. In the first column place the list of communicable diseases, which are mentioned in the Sanitary Code. Then head the second column "Number of cases", the third column "Number of deaths"; the fourth column "Number of cases per 100,000 people", and the last column "Number of deaths per 1000 people". If you will take your own town, and assume there is scarlet fever, and record it in this first column; right after scarlet fever put the number of cases reported during the year. Then calculate how many that is per 100,000 people. For that third column — the number of cases in the State — may be found in the Health News. The number of deaths per thousand cases of scarlet fever you will also get from the Health News. If you find that you have more scarlet fever, more diphtheria or typhoid fever than you should have — that is on an average — that fixes your attention on the thing which needs attention. If, on the other hand, you find you have less you can feel very comfortable about it. After you have worked this out for the communicable diseases, go to your registrar and find out the other diseases from which people die in your town. Record

Digitized by Google

them under the list of communicable diseases. This gives you an idea where the sore spots are in your community. The next thing is to find out the infantile death rate. Now the infantile death rate is the number of deaths of babies under one year of age multiplied by a thousand and divided by the number of births during the year. If that comes out in your town much over 100 there is something the matter. At one place where I was working recently, they had a rate of about one hundred fifty-six, and they have been keeping that up for a number of years. If you have much over 100 there is something the matter. It may be that your denominator is too small — that is, your births are not all reported. If they are not all reported the denominator will be small and the quotient high, so the thing to do, is to find out whether or not births are all reported. There are two or three ways of doing this. One is to go to the church records. In many instances the births are recorded in the baptismal records, and if you go to the clergyman in the right way he will always let you have access to the register. If you can find cases there not reported, why just call the physician's attention to the matter.

Another good way to find unreported births is to go into the schools and ask the children if they have any brothers or sisters in their family under one year of age. Ask them to raise their hand if they have, then take down the names of those families in which there is a baby. Take this information to your registrar and see if the child has been reported. Another way used in larger towns is to have on the inspection blanks — plumbing inspection, school inspection, or any kind of health inspection blanks — a stamp on which it is stated: "Any babies under one year of age in this house?" The plumber goes there and inspects the place and finishes up by saying: "Any babies under one year of age in this house?" In this way we often get reports of babies that have not been reported by midwives. It also very frequently happens mothers have the baby and do not have anyone attend it. As a matter of fact, the registering of a baby is a very important thing which may be a legal matter in years to come. I could give you a number of instances showing that it is a very important thing. If you get all the babies registered that will bring the death rate down.

Digitized by Google

Another thing, babies die. What do babies die of? That varies with different communities. I won't go into details. You can take it up with Dr. Shaw. This completes the statistical end of the sanitary survey.

There are four points in this sanitary survey. First the statistical part, next a description of the sanitary conditions of the place. For instance, the garbage and sewage disposal of the place. Find out whether or not the garbage is thrown out the back door on the ground, and whether or not the sewage is discharged into a leaking privy vault on to the ground. Farm sanitation is in some places very crude, and we would like a statement of the situation in your municipality. That need not take a great deal of space.

The third item in the survey is the water supply of the place. Find out whether or not 50 per cent. of the people have wells that are protected or whether they have springs, or use the public water supply.

The fourth item is in regard to the sanitary inspection of the schoolhouses. In the sanitary inspection of schoolhouses there are two things; first, in regard to the outhouses. We feel that this is very important and that there should be better outhouses. These outhouses should be a model in form, so that fecal matter can be screened in order that the flies may not get access, and so that the material will not leak into the soil. If there is a good tight vault which does not leak, or a bucket which is emptied often, there will be no trouble.

The second item is the fire hazard. In the country where there are a dozen scholars in a single room it does not matter whether the door of the schoolhouse swings in or out, but in a larger building there may be considerable fire hazard if the doors swing in. If you are in any doubt about this, ask some fire chief.

This is about all that we have in mind for the sanitary survey at the present time.

VOICE — When shall this survey begin?

DR. MEADER — That is immaterial to us. You will see that this information is more particular for the health officer. He thereby becomes familiar with his own territory. He should make it out for the fiscal year. January to January is a very good

Digitized by Google

time, or from September to September. Use your own convenience. When you have made out the report let your Sanitary Supervisor have a copy.

There are several matters in regard to the education of the people. The Public Health Law requires that the health officers, as one of their duties shall educate the people upon certain matters, and that is what I want to take up next. This matter of vaccination has been covered so well I do not think I shall touch on that, except this. It is common knowledge to you, but it is not common knowledge to the people, that vaccination against smallpox does confer a certain amount of immunity for a period usually extending about seven years (sometimes not so long and sometimes longer) but on an average seven years; that revaccination lengthens that period of immunity, and that if everybody is vaccinated the possibility of an epidemic of smallpox is absolutely prohibited. The community is protected where there is general vaccination. That does not mean if a person has been vaccinated he is absolutely protected from smallpox, but if you have a community where everyone is vaccinated there is not enough soil upon which the virus can grow. In a person who has been once vaccinated the severity of the disease is very much reduced. If we can get these ideas fixed in the minds of the people they serve to show them the necessity of vaccination. After once having a protected population we do not need to fear infections which may come in from Canada or other States.

VOICE — In regard to school children — children examined last year are to be examined again this year?

DR. MEADER.— Yes. Every year. I received a letter from the Commissioner of Education, saying they had no money to publish the new forms at the present time, but they will provide you with a form which the physician and school inspector can have printed and use. This is for temporary use. They are to appoint a new inspector to begin work about the first of October.

VOICE — If they are to use new blanks why should we go on and make these examinations now and do the work over?

Digitized by Google

DR. MEADER — They can't get any money until after the first of January. Another thing, I want to answer some of the questions which come to my desk every day. One of them is on the typhoid vaccination. Shall they vaccinate against typhoid fever? We feel that where there is a case of typhoid fever the remaining members of the family if they are under fifty years of age should be immunized against typhoid fever. We will provide you with the vaccine. Just send to the State Hygienic Laboratory. How many of you have ever vaccinated against typhoid fever? A good many. For the benefit of the rest I will tell you briefly what it is. It is a hypodermic of a killed culture of typhoid organism — say about half a cubic centimeter — injected usually subcutaneously in the arm. That will make the arm in six or eight hours begin to itch a little and there may be some swelling of the arm and it may be a little sore for about forty-eight hours. Once in awhile a patient will have headache, but that is about all there is to it. In seven days vaccinate again using about a cubic centimeter. Once in a great while you will find people who are quite sensitive to typhoid. We find that those who are sensitive to the vaccine are the most immune, so if you get a person with quite a severe reaction, I should not give the second or even the third dose, as they are the most immune. There is no need of giving the second dose. If there are people who have a very mild reaction I should certainly give the second and third dose at intervals of seven or ten days.

VOICE — If the work was turned over to me would they be expected to pay for it?

DR. MEADER — I should put it right up to the people. They are getting the protection, and I think they ought to pay for it. Just the same as antitoxin — if you are getting diphtheria antitoxin and immunizing the members of a family, you would probably charge for the giving of the antitoxin, but not for the antitoxin itself.

Now the next thing is in regard to rabies pulp. Sometimes you have a person bitten by a possibly mad dog. The question is what are the steps to be taken? If that dog has rabies you have to be very careful. If the dog has been fooled with, and

Digitized by Google

bites a person one should not pay any attention to it. If the dog has rabies he will probably die in a few days with the typical symptoms of rabies. Perhaps a better way is to kill the dog and send the dog's head to the State Veterinary College, Ithaca. If you do that, remember to pack the head in ice, because the brains of the dead dog decompose just as fast as anything else. The number of dog's heads they receive on which they are unable to make a diagnosis is very numerous. If you get a positive report you should report the matter to the Department of Agriculture at Albany and also have the Pasteur treatment given to the patient. You can have the patient sent to the Pasteur Institute, New York city — they assume all responsibility, and it will cost about $100 for the complete treatment, or you can have the rabies pulp sent to you. That will cost about $25. On the other hand you appeal to your Sanitary Supervisor, when you get one appointed, and this pulp can be sent to you directly from the Marine Hospital Service at Washington and won't cost you anything. This pulp is in cubes and will have to be ground up; there is more difficulty in giving it than with the other method. You are at liberty to use any of these methods.

VOICE — How long should you wait?

DR. MEADER — Until you get a diagnosis.

VOICE — Is it safe to wait?

DR. MEADER — Oh, yes.

VOICE — Suppose the patient is too poor to pay for this treatment?

DR. MEADER.— Get up a private purse. Another matter is in regard to the use of diphtheria antitoxin. I was interested in some of the remarks in regard to this diagnosis. Somebody asked what to put on the report card. If you have a case of clinical diphtheria, report on the diphtheria card and give the patient diphtheria antitoxin as quickly as you can. Do not wait for the laboratory diagnosis. Give 10,000 units of antitoxin, if you can give the antitoxin to the patient within the first twenty-four hours the chances of death are practically nil. On the other hand if

Digitized by Google

you delay twenty-four hours the chances are against the patient. Give the antitoxin early. Five thousand units given intravenously is worth 20,000 given subcutaneously and you get your results more quickly. If you get a desperate case, give antitoxin intravenously. It is not such a difficult task if you go at it right.

VOICE — Give 10,000 units as a primary dose?

DR. MEADER — Yes, I would, because it has been shown that where 10,000 units have been used the death rate is considerably lower than where the practice of using 5,000 has been followed. That brings me to the question of diphtheria carriers. The problem of diphtheria carriers is a new one in medicine and we don't know just how to meet it. There have been all sorts of methods tried; spraying the throat with bouillon cultures of staphylococci is a common practice and there is no doubt but that you get negative cultures for a day or two afterward, but in a week you will find the diphtheria bacilli are still there. The question then comes up as to where the organisms are located. Most of them are located in the tonsils and if you remove those the throat will clear up in two or three days. I had one case in a youngster who entered the hospital in March and I saw the youngster in August. He had large tonsils and we decided the trouble was with the tonsils. We decided to take them out, but the surgeon did not appear, so we examined the patient's nose carefully and found a shoe button. We removed the button, then the case cleared up in three days. The commissioner has ruled that when the nose and throat are normal in appearance for five weeks we raise the quarantine, on condition that the patient will be as careful about the discharges of the nose and throat as though he were a tuberculosis patient — that is, first, cough and sneeze on a piece of paper, handkerchief or rag which can be burned; second, that they would be very careful about coughing or sneezing in the presence of little children; and third, that they would permit cultures to be taken of their noses and throats at intervals of ten days or two weeks, and lastly that the health officer would watch these patients to find out if he could ever detect any other person getting diphtheria from these patients. If you get a patient who has been a carrier for about four weeks I wish

Digitized by Google

you would write me about it. We are keeping track of them. We have about a dozen now, and if we find that there are no secondary cases at the end of five weeks we will cut it down to four weeks, and if we do not get any secondary cases then we will cut it down still further.

VOICE — Do you mean four or five weeks from the onset or from the termination of the clinical symptoms?

DR. MEADER — From the termination of the clinical symptoms.

VOICE — If you get two negative reports you need not keep them in?

DR. MEADER.— Oh, no. But two negative cultures is purely an arbitrary matter. We required six negative cultures at one place before we allowed a patient to go away. As a result of that we often obtained four or five negative cultures and the sixth was positive. We have done it time and time again. Two negative cultures do not absolutely mean that the patient is free from diphtheria, but we have found for practical purposes that it is better to let those patients out.

VOICE — What about quarantining a house?

DR. MEADER — There are several things in the Code which I want to come to and that is one of them. Regulation 20 states: "When a case of diphtheria, epidemic cerebrospinal meningitis, measles, poliomyelitis (infantile paralysis), scarlet fever, smallpox, or typhus fever exists in any house, or apartment, or room, it shall be the duty of the health officer to post upon such house, or apartment, or room, or rooms, in which such case is isolated, near the entrance thereof, a placard stating the existence therein of a communicable disease."

Some of you may isolate other cases, and that is a liberty which any board may take. If you have a one-room house you will have to put the placard on the outside of the house. If you have a hotel or a private house in which you can keep the patient in the back or in a room away from the others, put the placard in the house by that room. Be sure, however, that the patient stays in

Digitized by Google

the room and that the person who cares for the patient keeps away from the other members of the family. The other members of the family may go about their occupations but have nothing to do with the patient or attendant.

We are revising all our literature on communicable diseases; for instance, typhoid fever, scarlet fever, measles and all of these communicable diseases. They are made up on this plan: "General information on the subject, instructions to parents, physicians, and health officers, etc." The important thing is to have these pamphlets so that the parent knows what to do, the physician knows what to do, and the health officer knows what to do, and we think that putting it that way the parent will know what the physician and health officer are supposed to do and won't harbor feelings against them for doing their duty.

There is one other point I want to speak of, and that is the sale of milk and cream when there is a disease on a dairy farm. The physician reports to the health officer and the health officer reports to us by telegram. There was one modification made yesterday by the council which I wish to call your attention to in Regulations 37 and 38 of chapter II of the Sanitary Code; amending the same by striking out "measles" from the list of communicable diseases therein mentioned.

Regulation 8 states as follows: "When a case of Asiatic cholera, diphtheria, amoebic or bacillary dysentery, epidemic cerebrospinal meningitis, epidemic or septic sore throat, measles, para-typhoid fever, scarlet fever, smallpox, or typhoid fever exists on any farm or dairy producing milk, cream, butter, or other dairy products for sale, it shall be the duty of the physician in attendance to report immediately to the local health officer the existence on such farm or dairy of such case."

You will notify us by telegram or telephone and give us this information, first, whether or not the patient is isolated according to the regulations of the Sanitary Code; second, the name of the farm on which the case occurs; third, the name of the patient, and lastly where this milk is distributed. If you permit the sale of the milk it is assumed that isolation is complete, because if isolation is not complete then you are to prohibit the sale of the milk. If it is distributed let us know where it is distributed.

Digitized by Google

You inform us it goes to the Borden Co., New York City or Cortland; we notify the health officer of such place that Dr. So and So, health officer of such a place, says that there is a case of typhoid fever on a certain farm; patient reported properly isolated, but milk goes to Cortland. Dr. Ball can then investigate to see if the isolation is complete.

VOICE — Suppose it goes to a cheese factory and is made up in cheese?

DR. MEADER — State that fact. One other thing — the question of what to do with those products. That is in Regulation 38: "When a case of diphtheria, epidemic or septic sore throat, amoebic or bacillary dysentery, epidemic cerebrospinal meningitis, measles, scarlet fever, smallpox, or typhoid fever exists on any farm or dairy producing milk, cream, butter, cheese, or other foods likely to be consumed raw, the state commissioner of health or the local health officer may destroy or order the destruction of any such foods which in his opinion may have been so contaminated as to be a source of danger, and the local authorities may compensate the owner for foods so destroyed."

If you think the exposure has been so bad that cheese and butter are likely to be contaminated you can have them destroyed.

There are many things I would like to talk about, but as it is one o'clock I think we had better adjourn.

Digitized by Google

Session for Registrars — Thursday, September 17, 1914

The session for registrars was held at Adelphi Hotel. It was called to order at 10 A. M., Dr. Cressy L. Wilbur, Director, Division of Vital Statistics, presiding.

DR. WILBUR — The hour of ten having arrived, the meeting will please come to order. I am sorry that there is not a larger attendance of registrars, but I presume many will come in a little later, because unfortunately for us there are other meetings going on. The Sanitary Supervisors are meeting their health officers, and there is a meeting in the General Hall. But I thank you very much, the registrars who are present, for being here so punctually, and I hope that all future meetings of the registrars at this Conference may begin promptly because, as you know, promptness is one of the cardinal virtues of registration service. We need to be prompt personally or we cannot expect undertakers, physicians and others to be prompt in fulfilling their part of the law.

The program provides, first, for some remarks on important duties of the local registrar. I have already filed my remarks with you in the form of this pamphlet, "Instructions to Registrars," which has been passed around. And I would like very much, as you are all familiar, of course, at the present time with the contents of this pamphlet of instructions, for any of you who have questions kindly to submit them in writing in regard to any points of instruction and operation of the law so that I can answer them to the best of my ability, for the benefit of all.

The instructions for registrars are supplemented by three other pamphlets which we are now preparing and will shortly have distributed. The first pamphlet is one of instructions to physicians, or rather information for physicians (Form V. S. No. 9). The second is a pamphlet of information for registrars, and the third, perhaps the most important of all, is the pamphlet entitled "Information for Undertakers," because we recognize that strict compliance with the law on the part of the undertakers is most essential in procuring the complete and satisfactory registration of deaths, which after all is one of the most important parts of the State registration work.

I may be permitted to take up some points in the draft of this pamphlet of information for undertakers. The preamble calls their attention to the great importance of the Registration Law, not only for sanitary purposes but also as a social measure. We hope that all physicians, midwives and undertakers in the course of a few years will realize the great social importance of the vital records which they help to make and that there may be inspired in them an enthusiasm for the thorough performance of such registration. We call their attention also to the fact that we have an extremely high ideal of service to carry out in the State of New York, a higher ideal perhaps we could not demand, namely, that our service shall be *perfect*. Perfection means a great amount of careful attention to detail on the part of every person connected however remotely with the registration service. It is the duty of the State Department of Health to procure the maintenance of a "perfect system of registration," and we should not be satisfied as an organization, as officials, as local registrars and sanitary supervisors, or as the staff of the Department of Health, with anything else than absolute perfection. I mean by this that within a year or so it should be an utter impossibility for any birth to escape registration, for any death to escape registration before interment or removal, or for any certificate to be received that is not in a fairly satisfactory condition.

To bring this about it is necessary, as I have stated here, and as the law requires, that each registrar shall be charged with the strict and thorough enforcement of the law in his own district. Every registrar is supreme in

Digitized by Google

his own locality, and hence we must depend upon the local registrars for results. Not that he is to bring suit or to use unduly strenuous means, but he is to promptly advise us if there is any infraction of the law so that we may be able to take the matter up with the persons who may, perhaps innocently, fail to comply with its requirements, and ask them pleasantly but firmly to see that the law is executed. We do not intend to lay additional duties upon the local registrar. He is not expected to go around and bring in delinquent births or deaths that have not been registered. But he has the point of vantage. Indeed any infraction of the law coming within his notice, if promptly reported, will result in the doing away with such an occasion of violation; and it is not the numerous and gross violations in any district but it is the few and infrequent violations that throw suspicion and doubt upon our final results of registration, and cause our statistics to be brought into more or less merited contempt.

Gentlemen, I have been talking a little bit against time because I have to introduce to you at the beginning of this session one who is widely known among health officers and registration officials. One who has been connected with the old Department, and as consulting statistician of the Public Health Service has done most effective work for the State of New York, and who has also rendered service as chief statistician of the Federal Bureau of the census. Dr. Walter F. Willcox is here and the registrars will be very glad indeed to hear from him on any subject which he may care to bring to their attention.

PROFESSOR WALTER F. WILLCOX — Only a few minutes ago I was told that I would be invited to make some brief remarks at the opening of the session this morning. Although I have no formal speech to make, I cannot avoid accepting the invitation and availing myself of the opportunity which the chairman has so kindly given me to say a few words of congratulation to the assembled registrars at the wonderful improvement that has taken place in the State during the last few years. Probably my own memory of the statistical work of the State runs back longer than most and perhaps than any of those present. It is now more than twenty years since I began to interest myself in the registration work of the State of New York. The change in that period is enough to hearten anyone. And most of the change has come in the last two or three years, so that the rapidity of change has been increasing.

In the field of vital statistics our position in this country has been unfortunate; we have lagged behind most of the leading countries of western Europe. About the reasons for this fact it is not necessary for me to speak at length. Possibly the most important single reason is the division of functions between the Federal government and the State governments.

Vital statistics consists essentially of two things, census statistics and registration statistics. These two have been kept apart

Digitized by Google

in this country because the Federal government has had charge of one, census statistics, and the States of the other, registration statistics. They have not been gathered and compiled in such a way as to be correlated and supplementary to each other. This is one of the reasons that our registration statistics have been imperfect and retarded in development. These two in combination make up what might be called and has been called the bookkeeping of the public health movement. Without a satisfactory system of bookkeeping we cannot have a satisfactory development of the system to which the bookkeeping relates. That is illustrated by referring to the European countries among which Sweden, Norway, Germany and England have been the most influential leaders in public health work. If you ask the reason for that, I suggest that it is very largely because as early as the middle of the eighteenth century the Scandinavian countries and somewhat later the other countries began to keep what we are now in this State just beginning to keep, namely, careful records of births, marriages and deaths. This is the reason that these countries are leaders in public health work.

In the second quarter of the nineteenth century England began a similar system and her example influenced us most of all. A little later we started in this country, particularly in the New England states, where several states closely imitated the English system, and for nearly half a century the New England states, especially Massachusetts and Rhode Island, were leaders among the states of the Union in their public health work.

Later the work in Massachusetts became less significant. In the 90's and the early part of the present century the work in Michigan was as significant as any. More recently the work in Pennsylvania and perhaps that in California became very important. And within ten or fifteen years, or since 1900, the work of the United States Census Bureau has been of very great help. Just now it has received a setback, which we hope will be temporary, but for the last twelve or fourteen years the leadership of the United States Census Bureau in this field has been of the first importance.

Digitized by Google

Now one result of the leadership of those countries, a very striking and concrete result, appears when we compare two countries as near each other as Sweden and Russia. Sweden is the healthiest country in this world, as shown by the average length of human life, and Russia is the unhealthiest in Europe, though they are only separated by a few miles of the Baltic Sea. One of the reasons is that in Sweden for over a century they have been studying public health problems and an adequate registration system began in that country as early as 1749, and it has hardly begun yet in Russia. A person born in Sweden has the chance of living nearly twenty-five years longer than in Russia and this notwithstanding the fact that the climate and physical conditions of the two countries are very similar.

We may congratulate ourselves that New York State at the present time and under the new Health Law is in a position where it is likely to take the lead in public health and registration matters. Certainly for the last year or two the progress in New York State has been far more rapid than in any other State in the Union during a similar period.

The New York law both for vital statistics and for the other branches of public health is probably superior to that of any other state.

I congratulate the State very heartily on the new law which has been passed, based almost entirely upon the suggestions of the model law drafted some years ago by cooperative efforts of the best authorities in the country. I congratulate the State on having secured a man who has been mainly responsible for building up the effective system of registration in the registration area of the United States. I believe that with the best law and the best man in the country to enforce the law we can look forward with great expectations to New York State's taking the position to which it may rightfully aspire, the position of leadership in vital statistics as well as in other branches of American public health work.

DR. WILBUR — I hope and believe that the service will justify Professor Willcox's pleasant expectations, and if we all work together with the thought that every person, so far as possible, will do what he can for the people of the State in making this the most efficient registration in the country, that will be possible.

Digitized by Google

The next paper on the program is one by Dr. William H. Guilfoy, Registrar of Records of Greater New York. I may make a brief preliminary statement as to why I asked Dr. Guilfoy to speak on this special subject, and I shall amplify a little later in the course of the discussion.

I believe that the necessity of absolutely complete legal records is of paramount importance in the registration service. We may speak of the great sanitary uses of vital statistics, or the importance of the statistical uses of vital statistics, but underneath all this lies the legal uses. And our documents are legal records that, as accepted and filed in the local office and preserved in the State Department at Albany, should be absolutely solid ground for legal procedure so far as they give the information which the law requires them to contain in a proper manner. Errors will occur, however, and corrections must be made. And it is necessary that those corrections be made. And it is necessary that those corrections should be made in a proper legal form. Now such a procedure has been worked out through the experience of many years in the city of New York, and I think in the necessary precautions to be taken, that probably no other city in the country has so thorough a system of making legal corrections as that now in force in New York City. Therefore Dr. Guilfoy will explain to us how legal corrections of erroneous records are made in New York City.

HOW LEGAL CORRECTIONS OF ERRONEOUS VITAL RECORDS ARE MADE IN NEW YORK CITY

WILLIAM H. GUILFOY, M.D.

Registrar of Records of Greater New York

I might before mentioning how legal corrections of records are made add my feeble voice in recommending the sentiments spoken of by Professor Willcox, and state that in my belief under the present law and under the best man that probably could be chosen for the position of Registrar of Vital Statistics of the State of New York, that I cannot but see that New York State will be the foremost in the line of registration states by its possession of complete vital statistics. And my presence here is with the idea that I might stimulate you, registrars, to uphold the work of your superior officer and place New York above Pennsylvania, which I understand holds the palm at the present moment.

The title of this paper indirectly presupposes the complete registration of births, deaths and marriages in the city of New York. Happily, it can be said that the registration of deaths and marriages is complete in the full sense of the term, while that of births is as complete as it is possible under the present law to attain, and for all practical purposes it might be claimed to be entirely complete.

Within a month a check of the percentage of birth certificates registered in the Department of Health of the city of New York

Digitized by Google

was made with the following results: Borough of Manhattan 99.14, the Bronx 100, Brooklyn 96.47, Queens 95.5, and Richmond 93.4 per cent., entire city 98.2 per cent. The method by which these figures were arrived at consisted in having all the inspectors and nurses of the Department on their daily rounds for the period of one week take the names, places of birth, dates of birth of all infants under one year of age, and the names of the medical attendants at the time of birth. The lists prepared by the inspectors and nurses were turned over to the Registrar and then compared with the name index and the street index of the births reported during the year ending August 1, 1913.

I might mention for the benefit of the registrars present that the Department of Health prepares two indexes of births, marriages and deaths. The birth and the death indexes are arranged separately, of course strictly alphabetically, according to the names and then according to the street and number where the birth or death took place. The object of this double, or cross-indexing, is to perfect the searching of the records, in order to issue transcripts or the certified copies thereof. In a cosmopolitan city like New York where a large percentage of the population possesses names of Slavic, Teutonic and Latin origin, it is very difficult at times to make a successful search under the name of the individual. This difficulty is overcome by checking back an unsuccessful search with the aid of the street index. By this means the failure to make a successful search is reduced to a minimum. A second purpose is accomplished by using the street death index in order to prepare mortality tables in any area required, thus we are enabled to prepare death rates from all causes, as well as from individual causes, by a single square block, or by any number of square blocks so it forms a basis for intelligent effort to reduce the mortality in certain sections of the city. Incidentally, the flocking together, in certain sections of the city, of immigrants from Italy, Russia-Poland, China and other countries enables the public health officer to direct his attention to those particular sections where the death rate is high. The street birth index is not only used as a means of checking the unsuccessful search for a birth under the name index, but also for the preparation of tables of infant mortality. As you well know, the most

Digitized by Google

accurate measure of infant mortality is based upon the ratio of deaths of infants under one year to every thousand births reported. The public health official is thus enabled to direct his force of medical inspectors and nurses to that particular block or number of blocks where the infant mortality is high.

The law upon which the corrections of the various records of births, deaths and marriages are made occupies about three lines in the statute book, and is as follows: "No change or alteration shall at any time be made in any of the records of the said bureau of records in said city without proof satisfactory to and upon approval of the said commissioner of health." Upon this sentence is based the different rules and regulations which are enforced in all applications for correction of the records. In fact, the success of an application depends upon the one word in the law, that is the word "satisfactory." During the past calendar year almost 267,000 birth, marriage and death certificates were filed at the Department of Health and it is fair to assume that many errors are made by the clergymen, physicians and midwives who file these records. When we consider the large percentage of Russians, Poles, Slavs and Italians who reside in and contribute so largely to the vital records of the city, we are not surprised at the large number of applications which are made during the year to correct errors in names and dates. There were made during the year 1913 over 1,500 applications to correct the various records of the department. In every case that an application is made it is insisted that the proof furnished must be considered *satisfactory* by the Commissioner of Health, or the Registrar of Records, who is delegated to receive such evidence and to make recommendations as to approval or denial. The instructions issued to applicants for correction of births on file contain the following requirements; first, the production of a certificate of birth containing the corrections which the applicant seeks. This certificate must be made out and signed by the physician or midwife who was in attendance at the time of birth; if the physician or midwife is dead, the certificate must be signed by either parent, and in the accompanying affidavit allegation must be made that the medical attendant at the time of birth is dead, or cannot be located; second, the production of an affidavit by the

Digitized by Google

nearest surviving relative of the child, in which allegation must be made as to the errors that appear on the original certificate, how they were made and by whom. If the correction sought is that of the first or given name, allegation must be made by the parent that he or she did not give the name stated on the certificate, but did give the name which the parent desires to substitute, to the physician or midwife at the time of the filing of the certificate. In explanation of what might be considered a hardship, it might be stated that the attitude assumed by the Department of Health as to the correction and substitution of other names than those given at the time of birth is that the records of birth show the name given at the time of birth and not at any subsequent period; that there is no provision in the law which compels the Department of Health to make substitutions of given names because the parents have changed their minds as to the name which they intend the child shall have, or because the child itself when it reaches the age of maturity desires to have its given name changed. In other words, the records of birth of the Department of Health show the name at the time of the birth and not at any subsequent period. As a matter of practical experience, it has been found that quite a number of parents supply the physician or midwife with a given name to be filed, and subsequently they have changed their minds and call the child by some other name which they consider more esthetic, up-to-date or American. The majority of these applications to change the given names of children as filed with the Department of Health are made by Jewish parents who repeatedly seek to change such good old Biblical names as Moses, Isaac, Israel, Ruth or Rachael to what they consider the more euphonious and more American names of George, Harold, Sidney, Gladys or Gertrude. Such applications as a rule are denied, unless it is clearly proved that an error was made by the physician at the time of the filing of the certificate.

If the correction sought is that of the family, or surname, on a certificate of birth, allegation must be made by the applicant as to the true or correct name which he possesses, and that the name on the original certificate was false, and that at no time was it the correct name, nor did he at any time assume such name. It has been found necessary to exact proof of this nature by reason of

Digitized by Google

the fact that many of the applicants have changed their family name, in order to make it more easily pronounceable, and also in some cases, I am afraid, to hide the origin, race or religion from which they have sprung. In these cases the Department takes the stand that if the change of the family name was made by the parent at a time subsequent to that of the birth of the child, then the application will be denied.

Occasionally application is made to change the date of birth upon the certificate, and in such cases corroborative evidence must be produced in the shape of a baptismal certificate, if possible, and affidavits of two witnesses who have personal knowledge of the date of birth. So much for the correction of the certificate of birth.

Now as to the application for correction of the certificate of death. The first requisite is the production of a corrected certificate of death, signed by the physician who signed the original. Secondly, an affidavit must be produced by the nearest surviving relative or person legally authorized to make such application, such as executors, guardians, etc., in which allegation must be made as to the errors on the original certificate, the manner in which they occurred and the true facts which they desire substituted for the incorrect ones. If an application be made to change the age upon the original certificate, in addition to the corrected certificate and the affidavit of the relative, there must be produced a copy of the certificate of birth of the deceased, a copy of his baptismal certificate, or a copy of a marriage certificate showing the age of the deceased, or a birth certificate of a child of the deceased showing his age at that time, that is, we seek to obtain the production of a record made at such times when no material gain was to be had by the making of a false statement. If application is made to change the civil condition upon a certificate of death, a marriage certificate, a decree of divorce, or a copy of a death certificate of deceased's wife or husband must be produced.

When application is made to correct a certificate of marriage the bride and groom must join in an affidavit setting forth their names, ages, residences, and citizenship, that they were the parties who were married at a certain period, at a certain place,

Digitized by Google

by a certain clergyman or official, and that the record of marriage on file at the Department of Health contains erroneous statements. They must state the errors which appear upon the original certificate, explain in detail how they occurred, state the true facts, allege the same to be true and petition the Commissioner of Health to file the accompanying corrected certificate, said certificate to be in the handwriting of the clergyman, or official, who signed the original certificate.

Undoubtedly, as we go along, and as education becomes more widespread in the community, the erroneous statements which are now made on the certificates on file with the Department of Health will diminish considerably in number. Under the present system of registration, I am of the opinion that mistakes will continue to happen and it behooves us as Registrars of Vital Statistics to see that applications for corrections of records must be carefully investigated and that a reasonable amount of satisfactory evidence must be produced before any alterations be made on an original record. I doubt very much if errors occur to the same extent in Continental Europe, where the system of registration differs considerably from that in vogue in this country.

It is to be assumed that the plan pursued in those countries whereby the parent generally, and the householder occasionally, must appear before properly constituted officials and make statements, under oath, as to the name of the child, date of birth, place of birth, names of parents, etc., and in case of death, the name of the deceased, date of death, place of death, and entire family history. Such sworn information is less likely to contain misstatements of facts or errors of spelling.

In the new plan adopted by the State Department of Health whereby a certificate of birth is to be sent to the parent shortly after the filing of the original certificate by the physician or midwife, the misspelling of names, etc., will be brought to the direct attention of the parent, and will possibly result in immediate applications on their part for the correction of errors that may occur.

In New York City we try to prevent as far as possible the making of mistakes, especially on certificates of death, by printing

Digitized by Google

on the back of the blank forms advice as to the legible writing of the names in black ink and to the fact that the Department of Health will refuse to receive certificates of death upon which alterations have been made, that is, that every certificate of death presented must be a clean certificate in the sense that no certificate will be accepted upon which erasures, alterations or interlineations have been made.

DR. WILBUR — With the approval of the audience we will not discuss that paper at the present moment, but pass on to the paper on the training of local registrars in the public health service; how the vital statistics law of Pennsylvania is enforced, and I will introduce Dr. Wilmer R. Batt. In introducing Dr. Batt I may refer with pride and pleasure to our long, intimate, personal and official connection. I knew Dr. Batt before Pennsylvania had any registration law, having met him when he had not given any particular attention to vital statistics except as a general student of sanitary methods. Our acquaintance first began on the field of Gettysburg, where he was endeavoring to show the assembled sanitarians of Pennsylvania that vital statistics was a good thing for that state, and that it was possible and feasible to have an effective registration law.

Through Dr. Batt's efforts the legislature did pass a law, and he was chosen to administer that law. One of my first and most pleasant duties after I was called to Washington to act as chief statistician of the Census Bureau was to proceed to Pennsylvania and examine the excellent results of the registration of vital statistics in Pennsylvania under Dr. Batt's direction. Pennsylvania had had a law as far back as 1847,— one of the first laws in the country, and they were trying to get vital statistics in effective operation for half a century, but until Dr. Batt demonstrated the value of the model law the results were practically worthless, whereas the results of the first registration in 1905 or 1906 under the model law were such that Pennsylvania could be and was admitted to the registration area of the United States.

Now the model law that Dr. Batt is operating under in Pennsylvania is practically the same law that we have in New York. Both laws are based upon a draft of essential requirements of registration that was prepared by a committee of the American Public Health Association, I think back about 1900, and the bills drafted along those lines have been adopted and put into practical operation in many states. And as I say, Pennsylvania was the first State, I think, in which the results of the operation of that model law entitled the State to be admitted to the registration area. Our law in New York is practically the model law with some improvements, and we hope that each State as it adopts that law will also introduce some improvements,— improvements that have come from experience. No man in the country has had larger and more extensive experience in the administration and theory of the law and is getting better results out of it than Dr. Batt, of Pennsylvania, whom I now present to you.

Digitized by Google

THE TRAINING OF LOCAL REGISTRARS IN PUBLIC HEALTH SERVICE

How the Vital Statistics Law of Pennsylvania is Enforced

WILMER R. BATT, M. D.
State Registrar of Pennsylvania

Lest you might think that we are unduly "puffed up" as it were, by the compliments which have this morning been paid to Pennsylvania in registration matters, I wish to take this opportunity of saying to you,— and it is with the greatest pleasure that I do say it,— that very, very much of the success of the work that we have performed in Pennsylvania is due to Dr. Wilbur, your present State Registrar.

It was his inspiration, as much as his influence, which helped us, in the first place, to secure the Model Law, and it has been very much through his guiding power and spirit that we have been able to accomplish our satisfactory results under the operation of that law.

The duties of local registrars are so well-defined in the model registration law of your state, and it would seem natural to infer that the training of local registrars should be based very largely upon the responsibilities set forth therein.

I would prefer, however, to speak briefly to you about some things which are not written into the organic law and which, however, seem to be just as essential to the successful operation of the law as the hard and fast provisions contained therein: these are the qualifications, personal and individual, of the local registrar.

It is not such a difficult matter to interpret the law and to provide the machinery for its execution, but experience seems to show that the most successful registration is conducted by those persons who have the ability to go just a little bit beyond the provisions of the law and get in closer and deeper touch with their people.

The conception on the part of local registrars as to the purposes of vital statistics is perhaps one of the fundamental things in the development of good registration service. Unfortunately, the impression seems to have gone forth, not only in the minds of some

Digitized by Google

registration officials, but also in the minds of those with whom they have particularly to deal (I mean physicians, undertakers and midwives), that because the registration of vital statistics is provided for by legislative enactments and that penalties are imposed therein, therefore, the registration of vital statistics is an object purely to be gained for state purposes. This, I think, is one of the wrong conceptions of the subject and one which makes the work of registration at times exceedingly difficult.

I think if we were all to start out with a full realization that the registration of vital statistics is a social service devised primarily for the people of the state, and that the purposes to be attained by perfect and complete registration of births and deaths are of far greater importance to the individual than they can ever be to the state in any capacity, and if we can succeed in getting this view thoroughly and well established in our minds, we are then in an ideal mental attitude to secure the best results of registration by waging a constant campaign of education on the basis of carrying to the people something of direct benefit to them. I doubt if there is any function of government in which the various state departments come in as close, intimate and personal touch with the people as they do in the registration of vital statistics.

It is a social service of the highest type when the state undertakes to do something for individuals which they cannot do so well for themselves. It is at the very base of the identity of citizenship.

The problems of registration in Pennsylvania, I take it, differ but slightly from those existing in the State of New York. Our four hundred miles of boundary contact is essentially an imaginary line, so far as the individual characteristics or temperament of the individual are concerned.

Early in registration affairs it was apparent that there were certain districts in the State in which we had practically little or no trouble whatever in the registration of vital statistics; the reports were correct, they were prompt and, as far as we were able to learn, they were complete. This condition, in direct contrast to the conditions in some other sections of the State, was at first believed to be due to some radical differences between the people residing in the different registration districts, that there might be a

Digitized by Google

greater community tendency to observe all laws in some portions of the State as compared with another.

When, however, we came to look more closely into the subject, we found that the people were just about the same in different localities, had the same ideals, the same passions and the same characteristics of nationality; but we did find on the other hand that there was a great difference in local registrars.

These officials in those districts where the best results were secured were found to be diplomats in every sense of the word, and to possess a broad and lofty idea as to the purposes of registration; and they carried home to every individual in their districts, as nearly as they could, the personal value of the work in which they were engaged. That was the keynote of their effort, with the result that it required but a short time to build up a sentiment which practically enforced the law without the employment of drastic measures. And this is one of the things not a part of the organic law, and which never can be written into a registration law, but which is fundamental to all successful enforcement.

The whole fabric of registration is very similar to the construction of a great building. The conscientious engineer strives, in placing his foundation, to reach an immovable mass which he calls bed rock and upon which he builds his foundation, suited in every way for the superstructure. The model vital statistics law, to my mind, is the bed rock; the foundation upon which we build our superstructure is the local registration officials. When you look at the superstructure you do not see the bed rock on which the foundation rests, and perhaps you see only a part of the foundation itself, but you have confidence when surveying the beauty or utility of the superstructure, in the foundation upon which it rests.

Local registrars are too often imbued with the thought that the test of their effectiveness is the number of delinquents which they can discover or the number of prosecutions they may institute, whereas, it would seem that the most effective registration should have primarily for its object the actual reporting of every birth and every death and, secondarily, the punishment of those who have failed in some one important particular.

To illustrate just how undertakers, for instance, can obscure the true purposes of registration, we had an occurrence a short time

Digitized by Google

ago in which the inquiry was made of an undertaker when he was securing the personal and statistical particulars, "Why do you want all these facts? Why must you know the name of John's father or the maiden name of John's mother?" And the undertaker replied, "Oh, that is just a lot of foolishness to suit some of those people down in Harrisburg, and I have got to do it, because if I don't I am liable to be arrested and fined." And that was just as far as he went in his explanation to those people about the value of the certificate which was to become a permanent record. You can readily understand that a very lofty conception of the real purposes of registration did not exist in the mind of that undertaker and was not created in the minds of those who were most vitally interested.

Without, therefore, in any way minimizing any of the magnificent and absolutely essential features of the Registration Law, I would most emphatically lay stress upon the personal characteristics of you gentlemen as registrars. Your conception of the purposes of registration, the education which you will carry to the people directly involved is the development of vital statistics on the line of individual and social service, rather than on the line of statistical work designed for state or local sanitary administration.

It will be a matter of some importance to you to be able to satisfy yourselves that you are securing complete registration. You can only feel assured of this fact by the constant employment of certain routine investigations. The complete registration of deaths is not such a difficult matter as the complete registration of births. The requirement of a burial or a transit permit and the responsibility placed upon those who receive the body for final interment or transportation so subdivide the liabilities that one performance undoubtedly to a certain extent checks against the other.

The complete registration of births, on the other hand, presents a greater difficulty. I might just briefly review a few of the methods we employ in Pennsylvania in trying to secure effective birth registration. First, we search the death records of children under two years of age, to ascertain if a birth certificate has been filed for such children, provided the birth is reported to have occurred anywhere within the State. Second, we subscribe for about one hundred and twenty-five daily, weekly and semiweekly newspapers

Digitized by Google

throughout the State, principally from the smaller towns and villages. From these we systematically clip the stork news, which forms in many of them a very important item. These are checked against the birth returns.

We can also consult the baptismal records of churches and, finally, through traveling inspectors, conduct from time to time a house to house canvass, in other words, a block census of those children born within a definite period. At the time of taking this census a certificate is made out for every birth discovered and the mother is required to sign it and state upon the certificate the name of the physician or midwife, if any such person was in attendance. The certificates are checked with the births registered. This latter procedure has the advantage of providing primarily a perfect certificate of birth, complete for all legal and statistical purposes for any births which may be found to be unreported.

Secondarily, we have also secured evidence upon which to proceed if desired against anyone who may be found to be negligent in the matter of registration.

Perhaps we shall have always with us two great subdivisions of our people, first, those who obey the law through a knowledge of and respect for its provisions and, second, those who obey the law simply through fear of its penalties.

It seems to be extremely distasteful to some people to be *required* to do anything, but we should undoubtedly seek to contract the second group and enlarge the first.

My impression was, when the vital statistics law in Pennsylvania was enacted, that we should not experience very much trouble in securing complete and accurate returns of births, and we had fixed in our minds that for 1906 (the first year of the operation of our law), we should secure the registration of approximately 195,000 births. At the close of the year we found but 167,000 births reported. It was rather disappointing in view of the strong effort which we had made to familiarize physicians and midwives as well as the public with the provisions of the law.

In 1907 we redoubled our efforts and stimulated the energies of our local registrars in every possible way. During 1907 we registered 175,000 births, a gain of 8,000 over the previous year, but still considerably below what we thought the registration should

Digitized by Google

be. It was then that we became convinced that it was absolutely necessary to impose the penalties of the law upon some of those who were neglecting to register births; and in 1908 we gathered evidence and instituted prosecutions on more than 1,000 unreported births. This was by no means a pleasant task. During that year, however, we registered 196,000 births. This total has steadily increased from year to year, and in 1913 we registered something over 208,000. These figures of course relate only to living births and do not take stillbirths into consideration.

Since 1908 we have not had any such large number of prosecutions. We have had a few every year from time to time, but the necessity for these prosecutions is growing less every day and we are finding fewer and fewer unregistered births. We believe that to-day there is a bigger and broader conception of the purposes of birth registration throughout every portion of our State. I also believe that the experience of Pennsylvania will probably be identical with your experience in New York.

Another important consideration, as we are dealing with vital records which have a distinct legal value, is the *prompt* registering of births within the time prescribed by law; and in carrying out this thought it is necessary that every local registrar must of necessity know his district thoroughly and know the population of which it is composed.

The full legal value which we seek to establish with every birth record is much impaired if the facts contained therein show that the certificate was not filed within the time prescribed by law, but one or two months later. The accuracy of the facts contained therein is opened up at once to a question of reasonable doubt when it is apparent that the certificate has not been made in accordance with the law, and as the value of the certificate is impaired in this sense, just so are the rights of those which you seek to conserve placed in jeopardy. The essence of time, therefore, in the reporting of birth certificates is an exceedingly important matter if you desire to have the certificates preserve their full force and value.

I am firmly of the belief that with every certificate registered after the expiration of the legal limit prescribed by law that a statement should be attached by the person filing the certificate setting forth the reasons for the delay.

Digitized by Google

It is not necessary to discuss the details of the Registration Law, as these will be conveyed to you by the State Registrar in printed instructions. I can only say that we in Pennsylvania will be perfectly and absolutely content if under the administration of your law in New York State by Dr. Wilbur, we are able to keep abreast and walk hand in hand, as it were, in the progress of this work. We know that we will have to maintain a very high measure of efficiency in order to do this. But the inspiration that Dr. Wilbur will give to you, I am quite sure, will be just as stimulating as his advice and counsel has been to us in Pennsylvania.

DISCUSSION

DR. WILBUR — I am sure that we have very greatly appreciated the advice, instructions and kind words given us by the State Registrar of our sister State, and if the audience feels as I do about it I think a vote of thanks to Dr. Batt for coming over and helping us would now be in order.

It was moved that a vote of thanks be extended to Dr. Batt, the State Registrar of Pennsylvania for his address this morning — carried without dissenting vote, and a rising vote was called for and given.

The next article on the program is the general discussion on the reorganization of the vital statistics service in the State of New York. I have no formal paper on this subject, but I will introduce to your attention a few blanks that have been prepared for the carrying out of the registration work more thoroughly. Blanks may be considered the ammunition of the vital statistician or of the registration service. They are the means by which we get results, and they must be prepared very carefully and corrected and adapted to the special purposes. By the way, before beginning this discussion, I will ask Mr. Chalmers, who is one of the staff of the Division of Vital Statistics, to pass about the cards, so that every registrar present may put his name and his district number on the card. Then we will have a complete roster of this meeting which, I think, will be a very important one.

It is the first time, I believe, that the registrars of the State have assembled in a general conference. And I hope it may be the beginning of many State conferences, and perhaps district meet-

Digitized by Google

ings, and the building up of a body of registration officials that will be recognized as just as essential an instrument of the public health service of the State as the health officers themselves. I may say that the registrars will constitute perhaps the left wing of the army of public health, and the health officers the right wing, and the center — I do not think you will have any trouble in feeling after our magnificent meeting the other evening and the splendid tribute to our Commissioner, Dr. Biggs — the center and the backbone of both wings is the Commissioner of Health; and with our allied service in both lines and our efforts for the public health interests of the State of New York, I believe that our work as registration officials will be found as important and as essential as that of any other class of public health work.

In this inventory and requisition for blanks which will accompany a general shipment of blanks to all registrars made some time during this month, and we expect all blanks to be delivered by that time, there are some 15 or 20 blanks that should be at all times in the local registrar's office.

First is this little inventory and requisition, giving a list of those blanks so that the registrar will know what he should have and can check up his supplies, and when one or more of the blanks become nearly exhausted he can fill out one of these slips with a statement of the number of such blanks on hand and the number needed and send it in to the State Department of Health with his monthly returns — which it is noted, as you are probably all informed, should be mailed promptly on the 5th day of the month and not at any other time.

The Monthly Statement Card also possesses some advantage over the old form. You have seen copies of this here — any who have not seen copies can be supplied. The little card report, former number 21, as you remember it, said little more than that the registrar sent in so many certificates. And many registrars felt that their whole duty was done when they had sent in what certificates were filed with them. This asks for more. The present law demands more of the local registrar, namely, that he should not only send in promptly all certificates of births and deaths filed with him, together with any births and deaths for the previous month, but also that he should certify to the best of his knowledge and belief

Digitized by Google

that no births or deaths occurred other than those sent in. And if any occurred that had not been promptly reported, he should notify the State Health Department so that proper steps can be taken to secure such missing returns.

The next blank in order is the postal card returns, "No births, no deaths," a similar statement furnished only to smaller districts.

The fourth form is one which has been sent out to all registration districts and will be supplied on request in any quantity desired. It is a specific report with reference to every violation of the law coming to the attention of the local registrar. It is intended for two general purposes — first, when a local registrar knows in some way of a birth or death not registered, no certificate of which has been filed in his office, then he should fill out one of these cards and send it directly and immediately to the State Department, giving the information required on the blue blank, the name of the delinquent, and so on, so that we can correspond at once with the physician or undertaker and see that the certificate is filed. When this has been done, even though the certificate itself be not filed promptly as the law requires, we will give full credit to the report of the local registrar. The second case is where a certificate is filed after the date set for filing by law in the case of birth, or without first obtaining a burial or removal permit in the case of a death. Immediately on receipt of such a certificate in the office of the local registrar he should attach a blue slip to it giving full explanation and any information as to the efforts he has made to secure that return. He will not ordinarily receive credit for a delayed certificate of birth or death because it is assumed that such delay is due primarily to his failure as local registrar to enforce the law in his district, but we will at once take up the report of delinquency on the blue blank and see to it that the physician, midwife or undertaker who has filed delayed certificates does not again do so unless he cares to go through the expense and trouble of a prosecution. We do not expect to have these cases occur more than once.

The fifth blank is the law, the Vital Statistics Law.

The sixth is instructions for registrars, and the seventh is the return envelope. You will note we emphasize that it is to be mailed on the 5th.

Digitized by Google

The eighth blank is the county roster of health officers and registrars. I am sure you will be interested in that. It is now in course of preparation and the distribution will I believe be in a very short time.* It consists of a book giving a list of health officers and registrars for each district, with district number, name and postoffice address for each town, village and city in the State corrected to September 30, 1914. These will be supplied in the form of a booklet for sanitary supervisors, members of the staff and others who have occasion to visit the various parts of the State, and for local registrars little leaflets will be provided giving the district numbers, the names and the postoffice addresses of health officers and registrars in each county. These will also be supplied to undertakers, to physicians, to midwives, and to all who have occasion to file certificates, so that they may know just where to file them. I believe this will greatly facilitate the work.

Next we have the leaflet "Information for Physicians," which will be sent to all physicians and will give them some suggestions in regard to the necessity and desirability of complying with the provisions of the law.

Form No. 30 is "birth certificates, loose." Birth certificates will be supplied in this form if desired instead of the little booklets of ten each. The reason for this is that the booklet with its stub is unnecessarily cumbersome. But if the physicians desire to keep a record of births which they file, and some are very likely to do so, we shall continue to supply the booklet if they want it. If they do not care to fill out a stub, and the law does not require them to do so, and consider it only an added burden, why it is cheaper and better for them to have the loose certificates and pay no attention to keeping a private record because the State does not require a private record to be kept. "Thirty-b" is the form number for the birth certificates in booklets of ten.

Then comes the supplemental report for given name of child. And we also have a leaflet of information for midwives. Also a record of births and deaths in sections of 100, which is designed to take the place of the large and cumbersome records now in your possession *when those shall be filled up.* If you run out of the

*Copies can be obtained on request for any county in the State.

Digitized by Google

present large bound books we shall supply sections hereafter containing records of 100 each, which can finally be bound in books of reasonable size to file containing 1,000 births or deaths. Death certificates are also supplied in the loose form and also in the booklets of ten as before if desired. We are preparing also and will shortly supply burial and removal permits, which have heretofore been purchased from private individuals, but now the official State form will go into use. And the same with transit permits for bodies that are to be shipped by common carrier.

A pamphlet of information for undertakers has been prepared, proof of which I have here and concerning which I shall not attempt to go into detail except to say that it lays stress most emphatically on the very important requirement of burial permits. Remember the provision is for all practical purposes entirely without exception: "No dead body of a human being whose death occurs in the State of New York shall be interred or removed from the primary registration district in which death occurred, or be otherwise disposed of, or be held there longer than 72 hours, without a permit from the local Registrar." This pamphlet has been read and approved by the State Board of Embalmers and will receive the support of the enlightened undertaking profession throughout the State.

Now the little tuberculosis report to the Health Officer you are also familiar with I presume. That is required by law. Of course in a large city, for instance, where the registrar and health officers use a common office no such form is necessary; but in small districts where the offices are separate the law requires the registrar to advise the health officer of all cases of tuberculosis.

I come now to one or two of the most important blanks which it has ever been my privilege to prepare, either for this or any other State. The importance of these blanks has been suggested by the papers which have been so kindly read to you by Dr. Gram, by the remarks of Dr. Batt, and by the general tenor of the discussion as to the importance and necessity of legal records. Those blanks which I will ask to be distributed are a Correction of Certificate and Record of Birth and a Correction of Certificate and Record of Death, two blanks of practically identical form except in one case you have a reproduction of the birth and in the other

Digitized by Google

of the death certificate. The face of each blank consists essentially of the standard certificate of birth, and the standard certificate of death, printed in red ink, with instructions for the corrections. The purpose of these is to insure a filing of the correct and truthful information when erroneous information has been filed on the original certificate. For instance, if the certificate is entirely incorrect, which would rarely occur, then a new certificate may be made out on this form. The person who makes the correction who would ordinarily be the physician or midwife who filed the erroneous certificate, testifies to the fact that all of the amended statements are true to the best of his knowledge and belief, signs it and dates it all before a witness as the present law requires. He then files it with the local registrar who thereupon enters: "Dist. No. ——. The above corrections, with Declaration on back of this blank, accepted and entered in red ink, with reference to this Amendatory Statement, with date and my signature (or initials) as Registrar, on the local record, this (day and year), and mailed to the State Department of Health, Albany (date), for permanent preservation and correction of the official records of the State." Signature of the local registrar follows, and then the final endorsement: "Entered as correction of State Registered No. —— on such a date, by the Director, Division of Vital Statistics, New York State Department of Health." After entering the corrected information on the original certificate with reference to the correction, this blank is permanently preserved as part of the records of the State, and can be produced at any future time as evidence of the changes made on the original certificate. Birth certificates are corrected in the same way. Now turning to the back you will notice some statements intended for the information of the local registrars, physicians, midwives, undertakers and others. Before these statements, however, is an emphatic declaration that "Vital Records should be correct and complete when presented to the local registrar for filing. They must be written legibly, in durable black ink, otherwise the Registrar is instructed to refuse to accept them for record. No certificates with erasures or written in pencil should be accepted under any circumstances." And I wish to ask personally of every registrar in this room that immediately when a certificate of death or birth is presented to you

Digitized by Google

written otherwise than legibly in durable black ink, that you refuse to accept it. It matters not whether the funeral be delayed. If it is, tell the people that the undertaker did not present a proper certificate, and to accept it would be a violation of your duty to preserve a proper record for the State. No certificates written in pencil or in which there are erasures should be accepted under any circumstances. If a mistake is made, they should make out a new certificate, and be more careful in writing the next one.

One point more, the registrars will treat certificates mailed to them precisely as if *filed,* as the law requires. The law does not say anything about mailing certificates; it says they shall be *filed.* And filing means that the undertaker shall present the certificate to the local registrar, so that the local registrar can make an examination of that certificate — read every part of it to see that nothing is omitted. He should first examine the general appearance of it. If it is made out in pencil he should tell the undertaker to make out a new one in ink. If any part of it is illegible and he cannot read it, he should tell the person who presented it that it must be written legibly in durable black ink, and should accept no other. Erasures are not allowed on it, not even of a single word. Do not accept any certificate unless it is complete and correct. This presupposes that some person presents it to you; if he mails it to you on the fifth day, improperly made out, you haven't time to send it back to him, and that is not filing in compliance with the law. But send it back to him just the same. If it is not received within the five day limit in complete and correct form he is subject to action for failure to file the certificate as the law requires. Refuse acceptance and permit unless it is complete and correct.

Change of child's name. That is a special paragraph because there is a great deal of that going on, and requests may be made of every local registrar. The mother may wish the child's name changed from John to William. An affidavit or amendatory statement should be accepted only in case of an error. The names have been allowed to be changed if they were made before the date of christening. There is no reference to christening in the law and no means by which you can alter the legal record made at the date of birth. That is, the names cannot be

Digitized by Google

changed after they are once legally registered and a part of the records unless by due process of law, unless there was an error made in the certificate at that time. If the physician or midwife who filed the original certificate is prepared to certify by amendment or affidavit that they filed the certificate of birth of John Jones and made a blunder and gave the parent's own name of William Jones by mistake, then the amendment can be filed. Do not alter the original record but simply write the amended name in red ink on your books, noting the authority, and send the affidavit to the Department. You should not erase or alter any word on your records or on any certificate of death presented to you for record under any circumstances.

Now in regard to the manner of entering such amendments. Having, for instance, filled out the corrected information in the certificate of birth or death, and signed and dated it, you turn over to the back and note that either "Form A—Amendment" or "Form B—Affidavit" is to be filled out, not both of them. Form A applies only to the present year, that is, to births or deaths registered under the new law. Amendatory statements can be made without cost to the parties. If the birth or death occurred before January 1, 1914, you should amend any error by affidavit. The general form is intended to bring about the same care that is given to the matter in New York City, and, although, we shall not be able for a time at least to go into the matter as fully, it will still give us some essential elements, namely a declaration in the form of an affidavit that so and so being duly sworn makes a declaration that he resides at so and so and he is the person who made out the original certificate of birth or death recorded as that of so and so and filed on such a date in the office of the local registrar. And further, that certain statements contained in said original certificate are untrue and incorrect, or that certain information required by law is not given therein, and therefore, for the purpose of affording a complete and correct official record, the correct statements or the omitted information has been supplied on the form of certificate on the other side of this blank, and the same has been properly dated, signed and witnessed. And then further, that the reason for the incorrect statements or omitted information in the

Digitized by Google

original certificate was as follows, etc. Then it is signed, witnessed, dated or sworn to as the case may be. These statements then constitute a part of the original record. The information thereon is copied in red ink without erasing or altering the original. The affidavit or amendatory statement is to be transmitted with the regular monthly returns to the State Department of Health at Albany or sent in individually as the case may be, there to be entered upon the records as a correction of the original certificates and carefully preserved. One hundred years from now you may be able to refer to the exact declaration and have legal evidence of change of the original record. This covers perhaps the most important particulars in the reorganization, namely the supplying of some new and necessary forms of blanks. I think now it will be well to open all the papers for general discussion. And I may say that I hope all the registrars present will ask any questions that they may care to and take part very freely in this talk this morning.

H. B. RUNDALL, District No. 1350, town of Amenia — There is one thing that could be enforced better, and that is the filling out of the birth places of the father or mother. The physician will say that so and so is the child of a person who was born in Pennsylvania or New York, leaving the name of the place out. A good many times, of course, you couldn't get that perhaps, but a good many times you can, and they do not.

DR. WILBUR — In reply to that question, some of that difficulty arises from the old form of blank which had under the word birthplace the words "state or country"; the present blank does not.

MR. RUNDALL — But that isn't a very good answer. Supposing 50 years from now we want to find out where John Jones was born, and the record says he was born in Pennsylvania. What part of Pennsylvania?

DR. WILBUR — In the new form of these certificates we have left out that limitation, and it simply asks for the birthplace in each case and we shall ask the local registrars to get the exact place every time when they can. That meets the point, particularly the defect of the old form of blank.

Digitized by Google

MARGARET O'MALLEY, District 2701, city of Rochester — I would like to know if a local registrar has the right to refuse to accept a certificate which does not mention operation and we know that the person has died from an operation in a hospital. They know perfectly well that the State wants the primary cause. And still they insist on giving heart disease. What can I do about it if they say, well, it is a disease that is acceptable to the State and you do not know anything about this operation. If it is a disease that is not acceptable have I the right to insist on getting from them what the person was operated on for?

DR. WILBUR — You have. We have not yet gotten around to checking up the proper statement of causes of death. The Commissioner has the right to prepare a list of causes of death that shall not be accepted or that shall not be accepted without investigation, and as soon as the general organization of the work is perfected we shall prepare such a list. In the meantime, however, it is entirely within the province of any local registrar, as for instance the local registrar of Rochester, who has just addressed us, to refuse to accept a certificate of cause of death that he or she knows to be false. I would refer such a case to the health officer who is properly the medical adviser of the local registrar, and depend on his judgment as to whether the cause should be accepted or whether it should be referred to the health officer for investigation or to the coroner.

C. H. BENNETT, District No. 5861, town of Sodus — You have extended an invitation to ask questions and I am going to ask four:

First. The new vital statistics law states that all certified copies of birth or death certificates shall be obtained from the State Department of Health. Some of my colleagues and myself have had a controversy over that matter in issuing employment certificates. There are three requirements as I interpret the Labor Law. First is that an application of the parent or guardian must be filed. Second, a record of school attendance must be shown. Thirdly, A certified copy of the birth certificate is required. That I understand can be obtained only in one place, namely from your Division. One of my colleagues stated to me

Digitized by Google

this week that he had had a letter from the Labor Department that any one who was qualified could issue that certified copy, namely, a town clerk, local registrar or yourself. I question that, and I want to know from headquarters the answer.

Second. How strenuous shall we be in reporting violations? Just before starting for this Conference I received a birth certificate mailed on the 6th day after the birth. Shall I report that to the Department?

Third. On the birth certificate there is a line at the end of the name line which says: "If first name is not given and so on." Shall a local registrar insist that the surname or the family name be entered on that line? Shall he refuse to accept a certificate that doesn't have the family name?

In issuing burial permits in the case of a child that lived one-half hour. That as I interpret the law is not a stillbirth and can not be so recorded for the purpose of reducing the mortality rate, but you have to file it both as a birth and as a death. The father wishes to dispose of the body on a village lot not in a public cemetery. What can be done in regard to that? Shall a burial permit be issued to that father or are burial permits to be issued only to *bona fide* undertakers or embalmers?

DR. WILBUR — First I must apologize for something which I hope none of the local registrars will ever do, namely, go away from home without a copy of the law. I did. I haven't a copy of the law so I can not refer to some sections that I would like to. But the first question was in relation to the issue of certified copies by local registrar. While the law provides that they may be issued by the State Department of Health, I do not think there is anything in the law which prohibits local registrars on proper occasions from making certified statements from information in their records, and they certainly can do that for labor and school purposes. Doesn't that answer the question?

MR. BENNETT — Just that one exception. A lawyer and myself had an argument over that interpretation of the law as I have intimated. He said you have the records there. I said I have. Then why not give me a certified copy of it. He required it for some pension papers and wrote to your department

Digitized by Google

and obtained from them a certified copy of this man's death certificate, I think.

DR. WILBUR — I think the law, in one section, if I had it here I would quote, provides that the local registrars may give information based on their records, and I should interpret that, without legal advice, to cover if necessary the transcript of the entire record. It would, as a rule, be a transcript of the local records and not of the original certificate.* I do not think a local registrar is prohibited from giving a copy of any part of the record.

Answering your second question as to how strict local registrars should be in reporting violations of the law, for example, if a birth is registered on the sixth day when it should have been reported within five days, I would advise them to report every violation of law; even if the birth was registered 15 minutes after the fifth day limit put on a blue slip.

Third. Insist on the surname, for that is part of the information required by law, and I know of no reason why it should not be filled out on the certificate. I should regard the certificate as incomplete and incorrect without it, and refuse to accept it.

Fourth. As to issuing a burial permit for a child that lived half an hour. If it lived half a minute or half a second after birth you should have a birth and a death certificate, and issue a regular permit to the person acting as an undertaker — the father in this case if there was no regular undertaker.

G. R. WENGENROTH, District No. 3501, City of Middletown — In connection with that last answer you made, would that also apply to a child born dead, to the death certificate? A. Yes.

Q. And applies to stillbirths? A. Yes.

Q. If I may be permitted, I would like to mention the certificate that I furnish for school and employment purposes in my district. I have arranged a special card which reads, as near as I can remember it, "I certify that the register of births as kept in the City of Middletown shows the record by that name born on such a date." I simply sign that as registrar, for which

* The law provides (§ 391) that a copy certified by the State Commissioner of Health shall be prima facie evidence in all courts and places of the facts therein stated.

Digitized by Google

I make no charge. This is accepted by our school authorities and also by our Health Officer for employment purposes. All he cares for, as I understand it, is to know the correct age of the person to whom he issues the employment certificate.

Now one more question, please. Is it permissible to accept a supplemental report of the given name of the child that has not been recorded at any date, irrespective of the date of birth?

DR. WILBUR — I will answer that question. You understand that provision for the supplementary report and given name of child is part of the machinery of the present law. It should therefore be used in reporting names, Christian names and given names of children unnamed but registered under the present law, for previous years to insert that information an affidavit is necessary. I might say in explanation of my answer to the fourth question relative to the issuance of a burial permit for a child who lived half a minute, that it was apparently due to the confusion which has resulted from the retention of the old stillbirth blank. Now those stillbirth blanks on blue paper are still being received and will be accepted up to the close of the present year, although registrars have been instructed to destroy any in their possession not used, and not to issue them further. A stillbirth blank does not require a burial permit for the stillborn child, but the present law which we should endeavor to bring into complete operation as rapidly as possible, requires a burial permit for a stillbirth that is over the fifth month of uterogestation, just as much as for a child born alive.

MR. R. W. LEWIS, District No. 3201, City of Rome — Having had considerable trouble in getting certificates of birth from midwives, leads me to ask why midwives should not be better qualified, should not have some qualifications.

DR. WILBUR — I might say that they are required on the part of the sanitary code. A section on the qualifications of midwives has just been issued, and will be sent out very shortly by the Department, which will answer that question.

PROF. WILLCOX — In his paper Dr. Batt stated that in 1908 in Pennsylvania they had approximately 1,000 prosecutions, that were made for defects in the registration of births. Now we

Digitized by Google

all know that there are still in this State a good many births occurring that are not registered. If he could give us some general information of the proportion of that 1,000 prosecutions in Pennsylvania that were of physicians who failed to register births, and that of midwives who failed to register births occurring in their practice, and what proportion, if any, of parents who failed to register births which occurred without the presence of midwives or physician in attendance, it might throw some light upon what class of our population in New York State the omission in registration of births is now occurring here.

DR. BATT — I cannot give the exact figures in answer to the questions you have asked but, approximately, they are about as follows:

The proportion of midwives to physicians practicing in Pennsylvania is about in the ratio of 1 to 10; in other words, among 10,000 physicians we would have 1,000 midwives practicing.

The prosecutions which we brought were about equally divided between physicians and midwives. The proportion of parents prosecuted, where no physician or midwife was in attendance was very small, considerably less than 1 per cent. of the total.

In regard to repeated violations, we find these proportions materially changed. Midwives upon prosecution for failure to report births, very rarely repeat the offence. On the other hand, physicians, although having been once prosecuted, are not loath at times to repeat the offence and must be constantly watched.

In regard to the methods of prosecutions, I would say that under the Pennsylvania law, which I think is the same as yours in this respect, the magistrate before whom the prosecution is brought cannot impose a fine. Upon the presentation of evidence *prima facie* in character, he must at the request of the prosecution place the defendant under bond for court. The prosecution can, however, at the instance of the plaintiff, be discontinued upon payment of the costs incurred before the magistrate. Having secured the evidence of father or mother in each case as the basis upon which the information is made; if the defendant admits negligence and expresses a desire to comply with the provisions of the law in the future and to at once register all unreported births, if it is a first offence, the case is disposed of upon the filing of all delayed re-

Digitized by Google

ports and upon the payment of the costs in the magistrate's court, which usually amount to less than four or five dollars. In second prosecutions we invariably ask that the defendant be held under bond in the county court. This entails upon the defendant considerable costs with the possibility of a fine in addition.

Considered from the standpoint of intelligence and familiarity with the English language, it would appear that observance of the law by midwives of foreign nationality is on the whole considerably more cheerful than it is on the part of some of our physicians. Less than 2 per cent. of the prosecutions which we have found it necessary to institute in our State have reached the county courts. Simply an expression on the part of the State office of determination to enforce the provisions of the law has been sufficient to accomplish the desired results in the majority of instances.

DR. GUILFOY — I might give the experience of New York City along the line of what Professor Willcox discussed. In 1913 we prosecuted 312 delinquents for technical violations of the law, in which they sent in the certificates of birth but at a time later than they should have been, varying from a few days over the ten days as the law requires to a delay in some instances that ran up to two or three months. Out of the 312 prosecutions, 300 were physicians and 12 were midwives. The number of births reported that year in New York City was: 135,000 births, 58 per cent. of which were by physicians and 42 per cent. by midwives. So you can see that corroborates Dr. Batt's statement in that midwives are more careful about complying with the law than physicians. And our method of prosecution is somewhat similar. We do not begin of course a criminal prosecution but do begin a civil action by the corporation counsel, and if it is the first offence on the part of the delinquents a confession judgment is allowed whereby they plead guilty and pay $10, which covers all legal costs. In the case of a second offence or a third offence the limit goes up from $25 to $100. So that in my paper which I presented here to-day in which I said we received an average of at least 98 per cent. of all births, which would be by reason of not being able to use hundreds of certain certificates with unpronounceable names, really 99 per cent. Of course there are always some cases where we do not receive them due to absence of the medical attendants, especially

Digitized by Google

among the very poor. We will have those cases, and we have really seen no means as yet to correct them.

PROF. WILLCOX — May I ask another question of Dr. Batt, called out by Dr. Guilfoy's comment. I was going to ask Dr. Guilfoy for his experience. Whether in Pennsylvania, as apparently is true in New York City, that about two-fifths of all births registered are reported by midwives, and three-fifths by physicians. I am not surprised at the proportion, but I wonder whether it would be as much in Pennsylvania and the rest of New York State as in New York City.

DR. BATT — Of the births reported every year in Pennsylvania, approximately 25 per cent. are reported by midwives and 75 per cent. by physicians. We of course secure our largest proportion of the reports from midwives in those centers of population containing many foreign born. In some of our industrial centers such as mining towns with large foreign population and in certain parts of our rural districts we get reports where women are not midwives in the true sense of the word, but neighbors, helpers as it were, who serve not strictly for hire but more as a kindly act. In these cases a certificate signed by either of the parents is accepted. The service of midwives, as I have just said, covers about 25 per cent. of the total number of births.

DR. FRANKLIN C. GRAM, District No. 1401, City of Buffalo — Some of my questions have been suggested by the papers that preceded me, and some of them are based upon a continuous experience of 21 years as registrar of vital statistics. I believe that nothing can be made so explicit in the law or in instructions as not to be susceptible to different constructions. One of these points presented itself very emphatically to my mind this morning. The birth certificate calls for a certificate to be signed by physicians, midwives, parents, householder, etc. Now that leaves latitude. When you come to the correction of a certificate by affidavit and filing of a supplemental form, to be made out when there is no given name on the original birth certificate, I would like to ask whether this correction blank, presented to me this morning by Dr. Wilbur, will take the place of the certificate, or be merely a supplemental report; also whether the two will conflict.

Digitized by Google

I want to emphasize that by a practical illustration. A physician was engaged to confine a woman. She gave him the approximate date of confinement. One morning he was called to her home and found the woman in bed with an infant along side of her. She told him "Doctor, I tried to get you yesterday but we couldn't find you anywhere. We telephoned your office and you were out; before we could get anyone else the baby was born. Now I would like to have an official record made of this infant's birth. Will you do so"?

The physician very obligingly complied with her request and made out a certificate of birth. He filed that in my office. Two or three weeks later some one interested in the affair desired to make some correction on that certificate. I never permitted any alterations to be made unless by an affidavit or certificate. In this case I told the person to make such changes as they desired on a separate paper and I would file it with the original certificate. A week or two later another one came along with another correction. Now I had two corrections added to the original. About three months later one of our prominent attorneys came in and looked at this birth certificate. He informed me that this woman, who had come from Dr. Guilfoy's bailiwick, had some one down there whom she tried to blackmail. She had gone to the county poor house and adopted an infant which she was trying to pass off on this man in New York for the sake of blackmail. When the case came into court the physician was called upon the stand to identify his birth certificate. He was shown the certificate and asked whether he had made it out. He promptly replied that he had. "Did you confine this woman?" "No." "Didn't you certify here that you confined her?" "Yes." It was only by relating the incidents that the doctor was permitted to go by the court without being punished. That happened twice during my experience, and in about the same way.

There is another point that came to me. Dr. Batt spoke of the social side of vital statistics, and Dr. Wilbur of the legal side, as well as the statistical. I want to relate another incident, which might be of interest to you, and I think it also brings in some of these things that Dr. Wilbur speaks of, namely, that this question is still one of evolution, and we have to profit by experience. This

Digitized by Google

is an instance in which the prompt and proper filing of a birth certificate saved the life of a man. Now Dr. Batt's remarks that these certificates should be filed promptly were very appropriately brought out, for you certainly should have them filed soon after birth, and within the five day limit. I want to compliment the State Department for insisting on that five day limit for filing. I think if Dr. Wilbur can succeed in getting all certificates filed within five days, that for this, above all others, he is deserving of the greatest credit.

One day a colored man came into my office and wanted to find a birth record. When I showed it to him he was very much delighted. He got a certified copy of it and told me that in Virginia a colored man was tried for his life, because he had raped a girl under 16 years of age. The mother had sworn that the girl was 15 years and 4 months, and according to all accepted authorities such evidence would stand. An affidavit of a parent is supposed to supersede many other things, but records showed that this birth occurred just one year previous to the date fixed by the mother. It was evident that the mother was mistaken. I couldn't understand how that would save a man's life, and he informed me that the penalty in Virginia for such a crime was death. Whether that was correct or not I do not know. I sent a certified copy and got a request from the court to verify that still more. I had to go before a supreme court judge and swear that I was the registrar, swear that this was a certified copy, and then get a certificate from the county clerk showing that he was a supreme court judge, and another one from the judge certifying that the other one was the county clerk. Even all this cross certification was insufficient. A few weeks later the sheriff of that county came up and inspected the original certificate in order to verify all my certificates. They appear reluctant to acquit the negro.

These are some of the conditions which we run up against on the practical side. This five day limit which we have enforced in Buffalo long before the State law required it, makes birth certificates of greater legal value as well as guarding against possible loss of registration.

Another thing for registrars to bear in mind, and I do not want to recite anything but experience, is a matter that will be of value

Digitized by Google

to you in relation to the tuberculosis law. When it was my privilege to attend a session of the American Public Health Association at Atlantic City, some years ago, we registrars were told by the statisticians of life insurance companies that our records were incorrect, incomplete, etc., and that we were a lot of incompetent people who were to blame for it. Well, I listened to that as long as I could and then I had to get on the offensive. That is a matter my friends Dr. Wilbur and Dr. Batt and Dr. Guilfoy can testify to. I maintained that these records are just what the physicians give us, and when a physician certifies that a person dies of a certain disease it is a slap at his integrity, his honesty and his ability, for a local registrar to question his certificate. But where the insurance companies came in was principally on the question of tuberculosis. They maintained there were far more deaths from tuberculosis than our records showed. In reply I said that just as long as the insurance people will refuse to insure a man who has a tubercular family history, or give him nothing, or only a reduced amount, if he dies from tuberculosis within a given period, just so long you are going to have that condition.

It may be news to the registrars that this condition is eliminated in the State of New York. The insurance companies can put into their policies whatever they please but the courts are the ones to judge. As an illustration, I was subpoenaed last year on a case where a man died, within three months after insuring, of pulmonary tuberculosis. The company refused to pay the claim because of the misstatements that he had made both as to his family history, three of his immediate family having died of tuberculosis, while he said that there were not any; and also as to his having been reported to the Department of Health as a case of pulmonary tuberculosis. I was subpoenaed to produce the death certificate, and Dr. Bissell, our bacteriologist, was subpoenaed with the records of the laboratory. Those records showed that the examination of his sputum, six months before he had applied for insurance, contained the tubercle bacilli. My records showed that he died of pulmonary tuberculosis. The records of his immediate family showed the same. Now here evidently was a clear case for the insurance company to win. However, all that I was permitted to testify was that "John Smith" died on

Digitized by Google

a certain date and place, all of which was conceded by both sides. Then when the attorney for the insurance company asked me to give the cause of death I was not permitted to testify to anything further. That is as far as the insurance company could go; they had the evidence but could not get it before the jury. Dr. Bissell, the bacteriologist, was not permitted to testify what his records showed. The result of the whole matter was that the insurance company lost its case and was compelled to pay.

Now with such a condition, Mr. Chairman, ladies and gentlemen, existing in this State, I haven't any hesitation in getting on my feet and saying that our tuberculosis records are going to be straight; that there will not be anything to fear, or that physicians are going to injure their friends and clients by certifying to pulmonary tuberculosis, and in that way prohibiting other members of the family from being insured, or from losing insurance to which they are entitled.

I would like to ask Dr. Wilbur to explain a little bit more in detail perhaps, how we are going to treat stillbirths. I have adopted this plan: The undertaker must bring the birth certificate and the death certificate at the same time. I do this for the reason, that it saves a lot of trouble for everyone.

And I want to differ with Dr. Guilfoy, as to the changing of the surname on a certificate. I had a case only recently in which a foreigner, after he had accumulated some wealth, decided that the foreign name no longer suited and he wanted to Anglicize it, or Americanize it, and he naturally wanted the names of his eight children changed at the same time. I made the same objections that Dr. Guilfoy did, that this was the record as established at the time of their births and that it was going to stay. Then he got an order from the Supreme Court, directing me to make those alterations, and I knew well enough what the result would be if I refused. I do not know whether Dr. Guilfoy is superior to a supreme court judge; at least I did not consider that I was.

Now I want to ask Dr. Batt whether he will accept transit permits, made out anywhere, without having them exchanged for local burial permits; and I want to ask Dr. Wilbur who should write the informant's name on a death certificate. I

Digitized by Google

have talked with Dr. Wilbur, but would like to have you all get the benefit of his reply. I think if we agree on uniform methods of procedure throughout the State that it will help us all. I believe that if the undertaker signs the informant's name on the death certificate it is a forgery, just as much as if he signed the doctor's name. I want to know from Dr. Wilbur if they may sign the name of the informant, per name of undertaker. I would like to have you get the benefit of that also. I think that is very important, because in certified copies afterward, and in the records, there is going to be some dispute as to the information as well as to the informant.

DR. BATT — The transit permit issued in one registration district of Pennsylvania is good for burial or other disposition of the body in any other portion of the State, irrespective of whether the body is transported by private conveyance or common carrier.

When a body is brought into the State from some outside point, a transit or removal permit issued at the place of death must be surrendered to the Local Registrar or his Deputy and exchanged for a local burial permit.

I would like to say just one word in regard to what seems to be a contested point here concerning the correction of names of children upon birth certificates.

Now, it is true that changing the given name causes quite a lot of trouble in the registration office, and I would like this thought to be borne in mind, without in any way interfering with the practice or instructions of the State of New York. that the first and important value of a birth record is to the child, and I cannot see wherein anything but the child's interests is conserved by simply filing with the original record any change which may be made in its name by those who have the legal right of guardianship to make that change. It may be a small matter which prompts it, a bit of sentiment perhaps on the part of the parent, but by accepting the change in due form and attaching it to the original, are we not carrying out the essential idea in the value of the birth certificate — that of a social service to the individual involved?

Digitized by Google

DR. GUILFOY — The question Dr. Gram directed at me might form a subject for quite extended controversy — as to the supremacy of a supreme court judge or the registrar of vital statistics. In these days of unrest and in these days of progressive movements, I think that a great many of us have sided in with some of the tenets of some of the so-called progressive party. And although I may not agree with them on all points — I am a man who has always voted the democratic ticket — still I feel that we sometimes are prone to criticize any unjust decision of the supreme court. There has been no supreme court judge who has issued an order directing me to make any changes in the given or surname on any of the certificates of births or deaths or marriages on file in the office. I have known several cases in which application was made to the supreme court judges for such orders, and the applications were denied on the ground that the law in regard to the changing of names upon those certificates — the power to change — was entirely confined in the commissioner of health, and by a recent amendment to the law the commissioner of health may delegate his power to the registrar of records. Dr. Batt's sentimental reason for altering such records might be all well in its way, but we are interested in holding to the record as it was made at the time unless, of course, there has been some serious error made and then we are very willing and very anxious to help out the party and straighten the matter out. But if a man has come to this country or even if he was born in this country, and the name which his progenitors have handed down to him, if that does not agree with his esthetic or business ideas, I do not think it is up to the registrars to make those records, those original records, conform to his change of mind or change of sentiment. I think that the interests of the children in the matter are conserved by the issuance of a copy of the original certificate, and attached thereto either a court order showing the alteration, the change of the family name, or else an affidavit by somebody in close relationship to the person, showing that such and such a name had been adopted later on. I think our attitude in the matter has served to do this, to maintain our records as clean and straight ones, and I think it is up to such individuals to produce the necessary papers, affidavits or court

Digitized by Google

orders to be attached to copies of original certificates if they wish to gain their purposes.

DR. WILBUR — I agree thoroughly with what Dr. Guilfoy has said, and believe that on the whole the interests of the child are more likely to be conserved by adhering to the requirement that the name originally registered shall be the name certified by us, and that any change of name shall be made in due process of law, just as for an older person. I do not know, but possibly I might agree in some cases, that if necessary to protect such interests, that some special form of procedure might be provided; but it is not a part of the duty of a registrar to undertake to usurp the powers of a court.

As to the conflict of a supplemental report. I do not think there is any conflict with the supplemental report where that is a part of the original birth certificate. We would hardly call it a correction; a supplemental statement is treated in every way as an original certificate, and is an original. The correction blank is only used when an error was made, for the correction of an error or correction of name prior to the use of the supplemental certificate.

In regard to the matter of stillbirths. Many physicians are accustomed to the old stillbirth blanks and will have some difficulty in finding that these are out of use and that stillbirths must be reported both as births and deaths as the law requires. The use of the old stillbirth blank has been permitted in the instructions for this year. The double registration of stillbirths is one of the most important features of the model law. The registrars will receive double compensation for each stillbirth when registered as a birth and as a death. The records of stillbirths will thus tend to be more complete under the new law. A midwife is not permitted to certify to a stillbirth as a death; a stillborn child may be reported by the midwife as a birth, but the death certificate can be made only by a physician. A midwife has no right to sign the medical certificate. That is a safeguard thrown around the registration of this important class of cases by the new law, and is a valuable provision.

Now we have a luncheon at one o'clock, and that luncheon is under the auspices of the State Sanitary Officers' Association.

Digitized by Google

Afterwards there is the meeting of the New York State Sanitary Officers' Association, and I believe at that meeting an effort will be made to form a section of registrars. I hope you all will be present and take part in the reorganization, and I believe you can render very valuable assistance.

I would like to call on every local registrar to tell something of his work, but we have not the time. I want to thank all of you for being present. I am sure that the work in your district will be more efficiently performed, for your attitude in coming here shows that you are interested in that work.

I desire to present to you Dr. John W. Trask of the United States Public Health Service and will ask him to say a few words. He represents the subject of morbidity statistics in the National Government, one which is in very intimate relation with the mortality statistics.

DR. JOHN W. TRASK — In spite of the fact that your chairman introduced me in words which would permit my speaking of morbidity statistics, I am going to take the privilege of sticking to the topic under discussion, the registration of births and deaths and the registrar's duty. One of the papers read this morning impressed me very much and started me thinking. It was on the subject of the registrar's duty, and especially his relationship to his district, his jurisdiction. It struck me every registrar should feel a personal responsibility to the people in his jurisdiction for the proper registration of all births and all deaths.

Now registration in this country is in a sense new, it is new to the extent that the people have not learned as yet what it means and its advantages. You cannot blame all the families and individuals in your jurisdiction because they do not know the real importance of these things, but you do know their importance. If anybody in your jurisdiction realizes and knows the necessity for registration you should be the one. And in a sense you should feel toward them as a father does toward his child. You should feel a responsibility for those who do not know the needs for registration and are innocent of intent to disobey the law. You should see that they are taught, that they are instructed as a father would instruct his children.

Digitized by Google

On the other hand, a physician, midwife, or other person, who wilfully disobeys the law is inflicting an injury on somebody, the results of which have great potential possibilities for harm. The absence of the registration of the birth of the child may be of importance in the inheritance of estates. The question of legitimacy may come up. The same thing is true to a certain extent of the registration of deaths. And any one who wilfully does an act which is fraught with such potential possibilities of injury to individuals who themselves are not to blame is not one to be handled with consideration. Among the crimes against one's fellow man the failure to register a birth or death is a serious one, it is not an insignificant one. It means too much to the happiness and welfare of people, and those who commit this crime should be handled with all the rigor that the courts of the law will allow. But the one idea that struck me was your attitude toward your jurisdiction. The attitude that you are the one who knows the importance of all these things, that you are responsible for their enforcement. I thank you.

JOHN W. COUPLAND, District No. 1852, Town of Batavia, N. Y.—It may seem a little out of the ordinary in regard to registering births and deaths in a case like this; in recording a case that ought to be applied to another town.

Batavia has surrounding towns, like Leroy, Darien, etc. For instance, we will say that a farmer in the town of Leroy is hurt with a binder and hurried to the Batavia hospital, where he dies. Should I report it in the city of Batavia for their records, leaving no record in the town of Leroy to show that the man has died?

I have thought since I have been registrar that it would be a very wise thing for the registrar of Batavia to forward to the town of Leroy, at the expense of Leroy, a certified copy of that man's death to be filed in the records of the registrar or town clerk of that town, showing that the man had died in Batavia.

For instance, a great many times since I have been in office I have had letters sent from different parts of the State inquiring for a record of death of a man who has lived in my territory, and yet no report could be shown of that man's death. And I have had insurance companies write but could not state that there was any

Digitized by Google

record of the death. I would like to see this brought up at a convenient time and framed into a law, because each town should have a complete record. That is, we are apt to be applied to, and for the benefit of the citizens of a town or the relatives — for they are apt to write to the registrar or the town clerk for a copy of the death or birth record, whichever it may be, when one is needed. For instance, a woman is taken to Batavia hospital from another town to be confined and no birth is recorded in her home town and there is no addition to the statistics showing that they have had an increase in population.

In a paper I listened to yesterday, of the death rate of a town, it was rating up something to the town it did not deserve and also a birth rate that did not belong to it. The person lived in Leroy or in Stafford or Darien, and should be rated in that town instead of the city of Batavia. I would like to hear other registrars and also Dr. Wilbur speak on that question.

DR. WILBUR — The registrars should check up the burial permits to be sure that they come back properly from the localities where the cemeteries are located within their districts, and there is provided on the last edition of the local record a place where that can be entered; write under the place where permit was issued, the date and from whom the permit was returned. As to the further disposition of the permit, that is immaterial; they may be destroyed or you may keep them as you please. The law doesn't specify what shall be their final disposition.

That a list of certified copies be sent to distant residents is a very valuable suggestion, and one that is already carried out in the registration service of many and perhaps all of the New England States. I hope to see an amendment introduced in the New York law after a time. I would hesitate to recommend it just at present, for we are still organizing the State work and many registrars find their duties sufficiently heavy and the compensation inadequate. Perhaps in connection with an increase of compensation, an amendment for this purpose can be introduced.

In reference to the question of nonresident deaths, Dr. Batt is Chairman of a Committee of the American Medical Association that will make a preliminary report at Jacksonville in

Digitized by Google

November. We are going to try to work out a solution in this State.

Now I wish to thank you again, on behalf of Dr. Biggs and the Department, for your attendance at this meeting, which I think is a splendid beginning. I have never attended a meeting of registration officials, State or National, where more sustained and earnest interest in this matter was apparent.

If there is no further business the meeting is now adjourned.

Digitized by Google

HEALTH OFFICERS AND OTHERS REGISTERED AT THE CONFERENCE

ALBANY COUNTY

Dr. Henry F. Albrecht, Green Island.
Dr. John W. Burns, Watervliet.
Dr. Jesse Crounse, Altamont.
Dr. Wallace E. Deitz, Berne.
Dr. Fisher M. Joslin, Voorheesville
Dr. Fred N. Guyer, Albany.
Dr. Albert Mott, Cohoes.
Dr. Arthur Sautter, Albany.
Dr. J. B. Washburn, Delmar.
Dr. Otto R. Eichel, Albany.
Mr. Herbert Ant, Albany.
Mr. Fenimore D. Beagle, Albany.
Mrs. Elmer Blair, Albany.
Mr. Henry Chalmers, Albany.
Mr. H. B. Cleveland, Albany.
Mr. E. C. Kenny, Albany.
Dr. Frederic C. Curtis, Albany.
Mr. Theodore Horton, Albany.
Mr. D. K. Jay, Albany.
Dr. William B. May, Albany.
Dr. Fred M. Meader, Albany.
Dr. H. L. K. Shaw, Albany.
Dr. A. B. Wadsworth, Albany.
Dr. Cressy L. Wilbur, Albany.
Dr. Augustus B. Downing, Albany.
Dr. John H. Finley, Albany.
Mr. Thos. E. Finegan, Albany.
Hon. Martin H. Glynn, Albany.
Mr. R. K. Townsend, Albany.
Dr. Chas. K. Winne, Jr., Albany.
Mr. William F. Fulgraff, Albany.

ALLEGANY COUNTY

Dr. A. T. Bacon, Canaseraga.
Dr. C. W. Barrick, Allentown.
Dr. C. R. Bowen, Almond.
Dr. Geo. E. Burdick, Alfred.
Dr. J. W. Coller, Wellsville.
Dr. W. O. Congdon, Cuba.
Dr. H. E. Cooley, Angelica.
Dr. H. B. Deegan, Canaseraga.
Dr. N. H. Fuller, Friendship.
Dr. W. J. Hardy, Belmont.
Dr. E. J. Loughlen, Andover.
Dr. E. H. Madison, Belfast.
Dr. C. W. O'Donnell, Andover.
Dr. F. J. Redmond, Fillmore.
Dr. George W. Roos, Wellsville.
Dr. F. H. Van Orsdale, Belmont.

BROOME COUNTY

Dr. Daniel S. Burr, Binghamton.
Dr. E. N. Christopher, Union.
Dr. F. J. Hitchcock, Deposit.
Dr. F. McLean, Chenango Forks.
Dr. R. S. Moscrip, Nanticoke.
Dr. B. E. Radeker, Deposit.
Dr. R. A. Seymour, Whitney's Point.
Dr. E. L. Teed, Lisle.
Dr. W. H. Wilson, Lestershire.

CATTARAUGUS COUNTY

Dr. Harmon H. Ashley, Machias.
Dr. H. S. Campbell, Otto.
Dr. E. L. Fish, West Valley.
Dr. Myron E. Fisher, Delevan.
Dr. W. F. Gardner, Conewango.
Dr. M. C. Hawley, Randolph.
Dr. M. L. Hillsman, Little Valley.
Dr. Wm. B. Johnston, Ellicottville.
Dr. W. E. McDuffie, Olean.
Cecelia Fitzgerald, Olean.

CAYUGA COUNTY

Dr. H. E. Anthony, Moravia.
Dr. W. D. Cuddeback, Aurora.
Dr. E. G. Fish, Union Springs.
Dr. Daniel J. Gilbert, Pt. Byron.
Dr. B. K. Hoxsie, Sherwood.
Dr. Chas. L. Lang, Cato.
Dr. F. W. St. John, Weedsport.
Dr. Thos. C. Sawyer, Auburn.
Dr. Frank C. Smith, Auburn.
Dr. C. M. Stever, Sennett.
Dr. W. A. Strohmenger, Moravia, R. D. 14.
Dr. Seth N. Thomas, Moravia.
Dr. H. M. Westfall, Moravia.
Dr. J. H. Witbeck, Cayuga.

Digitized by Google

CHAUTAUQUA COUNTY

Dr. A. J. Bennett, Jamestown.
Dr. Wm. G. Bissell, Chautauqua.
Dr. G. E. Ellis, Dunkirk.
Dr. J. J. Finn, Findley Lake.
Dr. R. F. Foster, Westfield.
Dr. Guy Granger, Sherman.
Dr. L. C. Green, Panama.
Dr. H. F. Hutchinson, Forestville.
Dr. John J. Mahoney, Jamestown.
Dr. Fred D. Rice, Ripley.
Dr. O. C. Shaw, Cassadaga.
Dr. Albert F. Soch, Fredonia.
Dr. M. G. Waters, Hamlet.
Mr. C. E. Waters, Villenova.

CHEMUNG COUNTY

Dr. E. T. Bush, Horseheads.
Dr. Benj. F. Colegrove, Van Etten.
Dr. W. T. Jones, Horseheads.
Dr. F. B. Parke, Elmira.
Dr. G. D. Smith, Wellsburg.

CHENANGO COUNTY

Dr. L. C. Andrews, Pitcher.
Dr. Paul B. Brooks, Norwich.
Dr. Edwin F. Gibson, Norwich.
Dr. B. A. Hall, Oxford.
Dr. F. S. Heimer, Mt. Upton.
Dr. Wm. Little, Sherburne.
Dr. Carl O. Meacham, Greene.
Dr. Jas. B. Noyes, New Berlin.
Dr. A. T. Perkins, South Otselic.
Dr. L. A. Van Wagner, Sherburne.

CLINTON COUNTY

Dr. C. W. Arthur, Plattsburg.
Dr. Gilbert Dare, Morrisonville.
Dr. J. H. La Rocque, Plattsburg.
Dr. W. U. Taylor, Mooers.

COLUMBIA COUNTY

Dr. Nat P. Brooks, New Lebanon.
Dr. Franklin D. Clum, Cheviot.
Dr. Chas. S. Curtis, Livingston.
Dr. R. S. Lipes, Stottville.
Dr. J. C. Mesick, Spencertown.
Dr. Henry J. Noerling, Valatie.
Dr. E. Oliver, Ancram.
Dr. M. W. Platt, Stuyvesant Falls.
Dr. C. R. Skinner, Copake.
Dr. Louis Van Hoesen, Hudson.
Dr. Geo. W. Vedder, Philmont.
Dr. Roscoe C. Waterbury, Kinderhook.

CORTLAND COUNTY

Dr. H. I. Van Hoesen, Truxton.
Dr. Henry Field, Marathon.
Dr. H. S. Braman, Homer.
Dr. Geo. D. Bradford, Homer.
Dr. Halsey J. Ball, Cortland.
Mr. C. D. Ver Nooy, Cortland.

DELAWARE COUNTY

Dr. C. S. Allaben, Margaretville.
Dr. C. M. Axtell, Sidney.
Dr. Elwin Champlin, Fleischmans.
Dr. Thos. L. Craig, Davenport.
Dr. H. J. Goodrich, Delhi.
Dr. E. Alex. Hand, Walton.
Dr. Edward A. Holmes, Colchester.
Dr. G. L. Hubbell, Hobart.
Dr. H. P. Hubbell, Stamford.
Dr. C. V. Latimer, Masonville.
Dr. R. K. Palmerton, Cannonsville.
Dr. John E. Safford, Stamford.
Dr. L. C. Warren, Franklin.
Dr. F. N. Winans, Franklin.
Dr. J. V. E. Winnie, Sidney.
Dr. L. E. Woolsey, Hancock.
Mr. B. G. Jackson, Franklin.

DUTCHESS COUNTY

Dr. C. E. Buffinton, Pawling.
Dr. Josiah Coborn, Hopewell Jct.
Dr. James M. Cronk, Hyde Park.
Dr. Chas. B. Dugan, Beacon.
Dr. C. L. Fletcher, Dover Plains.
Dr. Edw. J. Hall, Mooers Mills.
Dr. S. I. Jacobus, Millbrook.
Dr. E. Kingsland Johnson, Fishkill.
Dr. M. M. Lown, Rhinebeck.
Dr. C. A. Pritchard, Tivoli.
Dr. Wm. Weeks, Amenia.
Dr. Howell White, Fishkill.
Dr. Paul V. Winslow, Wappingers Falls.
Mr. H. B. Rundall, Amenia.

Digitized by Google

ERIE COUNTY

Dr. W. H. Baker, Williamsville.
Dr. E. J. Ballou, Gardenville.
Dr. C. E. Bowman, Alden.
Dr. B. S. Bourne, Hamburg.
Dr. Mark N. Brooks, Springville.
Dr. E. W. Buffum, East Aurora.
Dr. Francis E. Fronczak, Buffalo.
Dr. Benj. A. Gipple, Alden.
Dr. Arthur O. Hahl, Clarence.
Dr. F. A. Helwig, Newstead.
Dr. T. H. Johnston, Farnham.
Dr. Willard B. Jolls, Orchard Park.
Dr. J. A. Klahs, Depew.
Dr. Garra K. Lester, Blasdell.
Dr. Lester B. Lougee, Marilla.
Dr. P. A. McCrea, West Falls.
Dr. John G. Miller, Lancaster.
Dr. A. W. Phelps, East Aurora.
Dr. G. L. Priess, Eden.
Dr. B. E. Smith, Angola.
Dr. F. H. Stanbro, Concord.
Dr. Walden M. Ward, North Collins.
Dr. L. M. Wilkins, Lackawanna.
Dr. J. D. Wooster, Wales Center.
Dr. Edward Clark, Buffalo.
Dr. Franklin C. Gram, Buffalo.
Mr. Wilhelm Gaertner, Buffalo.
Miss Marian L. Clark, Buffalo.
Dr. Walter S. Goodale, Buffalo.
Mrs. Lester B. Lougee, Marilla.
Mr. Wm. J. Doetsch, Gardenville.

ESSEX COUNTY

Dr. E. R. Eaton, Crown Point.
Dr. M. E. Proctor, Lake Placid.
Dr. Melvin H. Turner, Ticonderoga.
Dr. C. B. Warner, Port Henry.

FRANKLIN COUNTY

Dr. W. H. Harwood, Chasm Falls.
Dr. C. A. Hastings, Malone.
Dr. W. N. MacArtney, Fort Covington.
Dr. L. L. Samson, Dickinson Center.
Dr. R. W. Van Dyke, Malone.
Dr. W. A. Wardner, St. Regis Falls.
Dr. C. F. Wicker, Saranac Lake.
Dr. A. G. Wilding, Malone.
Dr. John A. Smith, Saranac Lake.

FULTON COUNTY

Dr. Henry C. Finch, Broadalbin.
Dr. G. B. Ingalls, Mayfield.
Dr. A. L. Johnson, Gloversville.

GENESEE COUNTY

Dr. Robert M. Andrews, Bergen.
Dr. Chas. D. Graney, Le Roy.
Dr. E. E. Hummel, Darien Center.
Dr. M. P. Messinger, Oakfield.
Dr. J. B. Miller, Alexander.
Dr. E. C. Richardson, Corfu.
Dr. Merton R. Skinner, Le Roy.
Dr. Clarence J. Whalen, Bergen.
Dr. Geo. W. Wheeler, Byron.
Dr. Ward B. Whitcombe, Batavia.
Mr. Chas. D. Graney, Le Roy.
Mr. John W. Coupland, Batavia.

GREENE COUNTY

Dr. Geo. Conkling, Durham.
Dr. W. H. Griffin, Cairo.
Dr. Robt. Selden, Catskill.
Dr. I. E. VanHoesen, Coxsackie.
Dr. E. C. Van Dusen, Athens.
Dr. A. W. VanSlyke, Coxsackie.
Dr. P. G. Waller, New Baltimore.
Dr. W. A. Wasson, Greenville.
Dr. Chas. E. Willard, Catskill.
Mr. Fred Reynolds, Durham.

HAMILTON COUNTY

Dr. Wm. G. LeBoutillier, Long Lake.
Dr. H. F. Bonesteel, Indian Lake.

HERKIMER COUNTY

Dr. A. W. Albones, Frankfort.
Dr. Cyrus Kay, Herkimer.
Dr. Herbert T. Crough, Mohawk.
Dr. I. S. Edsall, Middleville.
Dr. A. L. Fagan, Herkimer.
Dr. C. H. Glidden, Little Falls.
Dr. W. E. Hunt, Little Falls.
Dr. Wm. Landt, Mohawk.
Dr. A. B. Santry, Little Falls.
Dr. H. J. Sheffield, Frankfort.
Dr. C. G. Strobel, Dolgeville.
Dr. E. C. Swift, Jordanville.
Dr. W. D. Garlock, Little Falls.

Digitized by Google

JEFFERSON COUNTY

Dr. Earl E. Babcock, Adams Center.
Dr. W. E. Deuel, Jr., Adams.
Dr. W. C. Fawdrey, Lorraine.
Dr. F. F. Hutchins, Antwerp.
Dr. C. J. Hull, West Carthage.
Dr. F. G. Metzger, Carthage.
Dr. Albert L. Morgan, Dexter.
Dr. W. S. Perrigo, Antwerp.
Dr. M. M. Ryan, Philadelphia.
Dr. E. A. Simonds, Carthage.
Dr. G. W. B. Smith, Rodman.
Dr. J. R. Sturtevant, Theresa.

LEWIS COUNTY

Dr. Harvey W. Humphrey, Lowville.
Dr. G. C. Lyons, Camden.
Dr. E. N. K. Mears, Lowville.
Dr. F. M. Ringrose, Constableville.
Dr. I. D. Spencer, Croghan.
Dr. P. H. vonZierolshofen, Croghan.

LIVINGSTON COUNTY

Dr. B. P. Andrews, Dansville.
Dr. C. M. Fiero, Moscow.
Dr. Weldon K. McGowan, Conesus.
Dr. Chas. V. Patchin, Dansville.
Dr. Henry C. Senke, Geneseo.
Dr. F. A. Wicker, Livonia.
Mr. Geo. F. Wheelock, Moscow.

MADISON COUNTY

Dr. R. H. Ash, Wampsville.
Dr. H. C. Brown, Brookfield.
Dr. W. E. Deuel, Chittenango.
Dr. H. S. Gardner, Hamilton.
Dr. H. G. Germer, Canastota.
Dr. F. L. Irons, Brookfield.
Dr. Geo. F. Mills, Oneida.
Dr. C. P. Monro, DeRuyter.
Dr. F. Stradling, Earlville.
Dr. A. R. Thomas, West Eaton.
Dr. William Taylor, Lenox.
Dr. A. J. Forward, Madison.
Dr. F. C. Watson, Cazenovia.
Dr. Geo. W. Willcox, Hamilton.

MONROE COUNTY

Dr. Paul Carpenter, Pittsford.
Dr. D. J. Corrigan, West Webster.
Dr. J. B. Foster, Webster.
Dr. James W. Fox, Fairport.
Dr. G. W. Goler, Rochester.
Dr. John L. Hazen, Brockport.
Dr. S. G. Hermance, Clarkson.
Dr. H. C. Hummell, Irondequoit.
Dr. Albert R. Hurley, East Rochester.
Dr. M. E. Leary, Rochester.
Dr. H. J. Mann, Brockport.
Dr. Allen M. Ottman, Hilton.
Dr. H. G. Shepard, Brighton.
Dr. Chas. E. White, Fairport.
Miss Margaret O'Malley, Rochester.
Mr. N. C. Palter, East Rochester.
Dr. C. F. Chaffe, Rochester.

MONTGOMERY COUNTY

Dr. Wm. H. DeLaMater, Minaville.
Dr. A. B. Foster, Fonda.
Dr. H. M. Hicks, Amsterdam.
Dr. S. L. Homrighouse, Fort Johnson.
Dr. J. C. Jackson, Fort Plain.
Dr. Chas. P. Wagner, St. Johnsville.
Dr. E. Young, Cranesville.
Dr. Henry C. Young, Hagaman.
Mrs. A. R. Watson, Fort Plain.
Mr. A. R. Watson, Fort Plain.
Mrs. J. C. Jackson, Fort Plain.
McQueen Fritcher, Amsterdam.

NASSAU COUNTY

Dr. J. H. Bogart, Roslyn.
Dr. Wm. J. Burns, Glen Cove.
Dr. Guy F. Cleghorn, Mineola.
Dr. A. D. Jacques, East Rockaway.
Dr. Wm. Rhame, Wantagh.
Dr. Wm. H. Runcie, Freeport.
Dr. H. G. Wahlig, Sea Cliff.
Mr. Thos. O'Connell, Manhasset.
Mr. Wm. A. Dodge, Great Neck.
Mrs. H. G. Wahlig, Sea Cliff.

NEW YORK COUNTY

Dr. Chas. W. Berry, New York.
Dr. Wm. J. Denno, New York.
Dr. Wm. H. Guilfoy, New York.
Dr. A. J. O'Leary, New York.

Digitized by Google

Dr. Hermann M. Biggs, New York.
Dr. Simon Flexner, New York.
Mr. E. A. Moree, New York.
Dr. T. Mitchell Prudden, New York.
Prof. C.-E. A. Winslow, New York.
Dr Leonard P. Ayres, New York.
Dr. S. Josephine Baker, New York.
Dr. S. J. Byrne, New York.
Dr. S. Adolphus Knopf, New York.
Dr. Carl E. McCombs, New York.
Dr. Geo. J. Nelbach, New York.
Dr. Wm. H. Park, New York.

NIAGARA COUNTY

Dr. T. P. C. Barnard, N. Tonawanda.
Dr. J. Glenn Ernest, Gasport.
Dr. E. E. Gillick, Niagara Falls.
Dr. J. E. Helwig, Martinville.
Dr. L. M. Jayne, LaSalle.
Dr. Thos. A. Kerr, Lewiston.
Dr. M. F. Mudge, Middleport.
Dr. John C. Plain, Ransomville.
Dr. Edwin Shoemaker, Newfane.
Dr. F. A. Watters, Lockport.
Dr. H. A. Wilmot, Middleport.

ONEIDA COUNTY

Dr. B. P. Allen, Oriskany.
Dr. Arthur P. Clark, New Hartford.
Dr. W. H. Dewing, Clayville.
Dr. J. W. Douglass, Boonville.
Dr. R. B. Dudley, Clinton.
Dr. Chas. N. Hichman, Utica.
Dr. David Kidd, Holland Patent.
Dr. H. D. MacFarland, Westernville.
Dr. Chas. R. Mahady, Rome.
Dr. Otto Pfaff, Oneida Castle.
Dr. G. J. Pollard, Oriskany Falls.
Dr. Edward G. Randall, Waterville.
Dr. J. D. Shipman, Vernon.
Dr. A. E. Stafford, Whitestown.
Mr. R. W. Lewis, Rome.
Mr. Frank B. Lafferty, Utica.
Mr. Walter D. Nash, Oriskany Falls.

ONONDAGA COUNTY

Dr. J. E. Andrews, Fabius.
Dr. Geo. T. Boycheff, Solvay.
Dr. G. L. Brown, Euclid.
Dr. B. F. Chase, East Syracuse.
Dr. F. R. Coe, Warner.
Dr. S. Ellis Crane, Onondaga Valley.
Dr. Wm. F. Cregg, Camillus.
Dr. F. H. Doud, Lysander.
Dr. D. D. Erway, East Syracuse.
Dr. Milton E. Cregg, Elbridge.
Dr. E. P. Hall, Skaneateles.
Dr. Geo. Hawley, Baldwinsville.
Dr. Edw. B. Kaple, Elbridge.
Dr. R. S. Moore, Cicero.
Dr. H. G. Padget, Tully.
Dr. Jas. H. Paul, Jamesville.
Dr. Frederick W. Sears, Syracuse.
Dr. R. A. Whitney, Liverpool.
Dr. H. B. Wright, Skaneateles.

ONTARIO COUNTY

Dr. Jas. S. Allen, Geneva.
Dr. H. R. Barringer, Naples.
Dr. Albert L. Beahan, Canandaigua.
Dr. Ina V. Burt, Phelps.
Dr. D. A. Eiseline, Shortsville.
Dr. O. J. Hallenbeck, Canandaigua.
Dr. Orville J. Mason, Farrington.
Dr. B. T. McDowell, Bristol Center.
Dr. A. M. Mead, Victor.
Dr. John H. Pratt, Manchester.
Dr. B. I. Preston, Naples.
Dr. C. C. Ransom, East Bloomfield.
Dr. C. W. Selover, Stanley.
Dr. Elihu Standish, Honeoye.
Dr. F. D. Vanderhoof, Phelps.
Dr. C. C. Williamson, Gorham.
Dr. William A. Bing, Canandaigua.

ORANGE COUNTY

Dr. H. T. Kurtz, Highland Falls.
Dr. J. L. Hanmer, Middletown.
Dr. Robert Cordner, Middletown.
Dr. Ralph W. Thompson, Cornwall-on-Hudson.
Dr. Thos. J. Burke, Newburgh.
Dr. E. G. Cuddeback, Port Jervis.
Dr. P. R. Bowdish, Cornwall.
Dr. F. H. Dreyer, Montgomery.
Dr. W. H. Faulkner, Walden.
Mr. G. R. Wengenroth, Middletown.
Mr. Geo. W. Tears, Walden.
Mr. J. F. Ficken, Highland Falls.
Mr. L. G. Distler, Middletown.

Digitized by Google

ORLEANS COUNTY

Dr. Gilbert D. Forbes, Kendall.
Dr. C. H. Whiting, Medina.
Dr. Geo. F. Rogan, Medina.
Dr. John Dugan, Albion.
Dr. Leon G. Ogden, Albion.
Dr. A. I. Eccleston, Waterport.

OSWEGO COUNTY

Dr. W. G. Babcock, Cleveland.
Dr. A. C. Baxter, Oswego.
Dr. F. I. Bishop, Williamstown.
Dr. W. B. Downes, New Haven.
Dr. E. J. Drury, Phœnix.
Dr. Leroy F. Hollis, Lacona.
Dr, A. C. Parker, Altmar.
Dr. L. D. Pulsifer, Mexico.
Dr. Chas. W. Radway, Mexico.
Dr. Robert Simpson, Jr., Volney.
Dr. J. K. Stockwell, Oswego.
Dr. H. J. Terpening, Fulton.
Dr. Geo. G. Whitaker, Fulton.

OTSEGO COUNTY

Dr. Floyd J. Atwell, Cooperstown.
Dr. Geo. W. Augustin, Oneonta.
Dr. B. F. Bishop, Garrattsville.
Dr. Lewis W. Burdick, Maryland.
Dr. A. J. Butler, Unadilla.
Dr. H. V. Frink, Richfield Springs.
Dr. W. R. Lough, Edmeston.
Dr. J. H. Moon, Cooperstown.
Dr. M. H. Nichols, Worcester.
Dr. S. G. Pomeroy, West Oneonta.
Dr. G. E. Schoolcraft, Hartwick.
Dr. George O. Sloan, Worcester.
Dr. J. W. Swanson, Springfield Ctr.
Dr. Henry A. Ward, Richfield.
Dr. Samuel J. White, Schenevus.
Dr. F. L. Winsor, Laurens.
Dr. N. F. Yates, Cherry Valley.

PUTNAM COUNTY

Dr. Coryell Clark, Cold Spring.
Dr. F. J. McKown, Carmel.
Dr. John C. Slawson, Mahopac.
Dr. J. M. Winslow, Cold Spring.

RENSSELAER COUNTY

Dr. C. A. Chaloner, Stephentown.
Dr. Thos. C. Church, Valley Falls.
Dr. Eli Denny, Nassau.
Dr. Ira M. Garrison, East Greenbush.
Dr. Stanton P. Hull, Petersburg.
Dr. C. F. Nichols, Troy.
Dr. E. E. Reichard, Sand Lake.
Dr. A. O. Roberts, Rensselaer.
Dr. Wm. D. Shafer, Castleton.
Dr. J. D. VanWirt, Johnsonville.

ROCKLAND COUNTY

Dr. Chas. D. Kline, Nyack.
Dr. E. B. Laird, Haverstraw.
Dr. Geo. A. Leitner, Piermont.
Dr. M. J. Sanford, Suffern.
Dr. W. R. Sitler, Suffern.
Dr. Mathew J. Sullivan, Haverstraw.
Dr. John M. Hasbrouck, West Haverstraw.
Mr. Jas. J. Brown, Suffern.
Dr. H. M. Vanderbilt, Suffern.

ST. LAWRENCE COUNTY

Dr. F. D. Allen, Richville.
Dr. S. P. Brown, Potsdam.
Dr. H. T. Carter, Piercefield.
Dr. C. E. Duffy, Parishville.
Dr. J. Q. Flood, Hopkinton.
Dr. E. H. Hackett, Massena.
Dr. A. Letherlands, Benson Mines.
Dr. H. J. Mathews, Nicholville.
Dr. C. A. Northrop, Hermon.
Dr. W. H. Schwartz, Colton.
Dr. D. M. Taylor, Edwards.
Dr. W. E. Whitford, Depeyster.
Dr. F. F. Williams, Canton.

SARATOGA COUNTY

Dr. A. M. Burt, Charlton.
Dr. John Cotton, Burnt Hills.
Dr. P. H. Finch, Providence.
Dr. Frank F. Gow, Schuylerville.
Dr. S. S. Kathan, Conklingville.
Dr. J. S. Parent, Galway.
Dr. L. A. Parmenter, Corinth.
Dr. Wm. A. Patterson, Gansevoort.
Dr. George P. Paul, Round Lake.
Dr. Frederic J. Resseguie, Saratoga Springs.
Dr. S. M. Rood, Wilton.
Dr. F. J. Scott, Waterford.
Dr. F. J. Sherman, Ballston Spa.

Digitized by Google

Dr. F. A. Smith, Corinth.
Dr. G. P. H. Taylor, Stillwater.
Dr. G. Scott Towne, Saratoga Spgs.
Dr. Wm. VanDoren, Mechanicville.
Dr. Wm. B. Webster, Schuylerville.
Dr. J. Seward White, S. Glens Falls.
Dr. T. E. Bullard, Schuylerville.
Dr. Augustus Downs, Saratoga Spgs.
Dr. Geo. Foster Comstock, Saratoga Springs.
Dr. John F. Humphrey, Saratoga Springs.
Mr. Jos. M. Kelly, Saratoga Springs.
Dr. E. H. King, Saratoga Springs.
Dr. Jno. B. Ledlie, Saratoga Springs.
Dr. Wm. M. Martin, Saratoga Spgs.
Mr. Geo. Foster Peabody, Saratoga Springs.
Mr. A. W. Sahlberg, Saratoga Spgs.
Mr. C. Strachan, Saratoga Springs.
Mr. W. J. Thompson, Saratoga Spgs.
Dr. E. H. Vines, Saratoga Springs.
Dr. A. W. Ferris, Saratoga Springs.
Dr. Chas. S. Prest, Waterford.
Mr. Clarence I. Leggett, Saratoga Springs.
Mr. J. E. Sullivan, Stillwater.
Mrs. J. Seward White, S. Glens Falls.
Arthur G. Wilmot, Malta.

SCHENECTADY COUNTY

Dr. C. W. Ensign, Rotterdam Jct.
Dr. W. E. Lothridge, Niskayuna.
Dr. John L. Schoolcraft, Schenectady.
Dr. Wm. C. Treder, Scotia.
Dr. Wm. L. Wilson, Scotia.
Dr. Janet Murray, Schenectady.
Dr. Chas. C. Duryee, Schenectady.
E. C. Hoyt, Scotia.

SCHOHARIE COUNTY

Dr. E. E. Billings, Gilboa.
Dr. Joseph R. Brown, Seward.
Dr. Wm. W. Burgett, Fultonham.
Dr. H. F. Kingsley, Schoharie.
Dr. M. A. Losee, Livingstonville.
Dr. W. E. Low, Jr., Richmondville.
Dr. Herbert L. Odell, Sharon Springs.
Dr. E. S. Persons, Gilboa.
Dr. W. T. Rivenburgh, Middleburgh.
Dr. O. A. Snyder, Schoharie.
Dr. C. H. Topping, Jefferson.
Dr. L. O. White, Sharon Springs.

SCHUYLER COUNTY

Dr. S. B. Allen, Burdett.
Dr. Frederick B. Bond, Watkins.
Dr. G. A. Mottram, Weston.
Dr. D. W. Scutt, Watkins.

SENECA COUNTY

Dr. Wm. W. Carleton, Waterloo.
Dr. J. S. Carman, Lodi.
Dr. D. F. Everts, Romulus.
Dr. W. M. Follet, Seneca Falls.
Dr. A. J. Frantz, Seneca Falls.
Dr. E. P. McWayne, Varick.
Dr. F. W. Severn, Interlaken.
Dr. W. M. Stacey, Waterloo.
Mr. Geo. S. Wade, Romulus.
Dr. A. Letellier, Seneca Falls.
Dr. J. E. Medden, Seneca Falls.

STEUBEN COUNTY

Dr. P. L. Alden, Hammondsport.
Dr. W. G. Benedict, Cameron.
Dr. S. H. Bennett, Greenwood.
Dr. John A. Conway, Hornell.
Dr. I. L. Goff, Howard.
Dr. W. A. Hanor, Corning.
Dr. D. P. Mathewson, Bath.
Dr. Geo. M. Peabody, Wayland.
Dr. G. L. Preston, Canisteo.
Dr. Carl Schumann, Campbell.
Dr. J. N. Shumway, Painted Post.
Dr. Douglass H. Smith, Bath.
Dr. W. W. Smith, Avoca.
Dr. A. M. Stewart, Atlanta.
Dr. J. F. Trant, Prattsburgh.
Dr. C. J. Tomer, Savona.
Mrs. J. N. Shumway, Painted Post.

SUFFOLK COUNTY

Dr. Wm. A. Baker, Islip.
Dr. W. B. Gibson, Huntington.
Dr. Hugh Halsey, Southampton.
Dr. T. C. Lippman, Sag Harbor.
Dr. Clarence C. Miles, Greenport.
Dr. John Nugent, Southampton.
Dr. Frank Overton, Patchogue.

Digitized by Google

Dr. F. D. Peterson, Cutchogue.
Dr. Guy H. Turrell, Smithtown B'ch.
Mr. B. B. Rogers, Greenport.
Mr. Bryant L. Young, Orient.
Mr. C. E. Smith, Southampton.
Mr. L. W. Young, Islip.

SULLIVAN COUNTY

Dr. Jas. A. Cauthers, Monticello.
Dr. J. Wm. Davis, Livingston Manor.
Dr. F. W. Laidlaw, Hurleyville.
Dr. C. S. Payne, Liberty.
Dr. J. C. Pearson, Phillipsport.
Dr. W. G. Steele, Mongaup Valley.
Mrs. Frank W. Laidlaw, Hurleyville.
Miss Mildred A. Cauthers, Monticello.

TIOGA COUNTY

Dr. W. L. Ayer, Owego.
Dr. G. S. Carpenter, Waverly.
Dr. C. W. Chidester, Newark Valley.
Dr. M. B. Dean, Candor.
Dr. R. D. Eastman, Berkshire.
Dr. R. H. Fisher, Spencer.
Dr. Fred'k Terwilliger, Tioga.

TOMPKINS COUNTY

Dr. J. F. W. Allen, Danby.
Dr. H. H. Crum, Ithaca.
Dr. H. Genung, Freeville.
Dr. Marian B. Lodeman, Ludlowville.
Mr. D. V. Rumsey, Enfield.
Prof. Henry N. Ogden, Ithaca.
Prof. W. F. Willcox, Ithaca.

ULSTER COUNTY

Dr. John I. Becker, Highland.
Dr. J. M. Bowman, Wallkill.
Dr. Jas. C. Coles, Ellenville.
Dr. J. A. Decker, Port Ewen.
Dr. John H. Dewitt, Saugerties.
Dr. J. Freston, Milton-on-Hudson.
Dr. W. P. Fuller, Kerhonkson.
Dr. A. H. Palmer, Marlboro.
Dr. L. K. Stelle, Kingston.
Dr M. E. Stephens, Gardiner.
Dr. Mary Gage-Day, Kingston.
Mrs. M. J. Michael, Kingston.
Ulster Palmer, Wawarsing.

WARREN COUNTY

Dr. W. W. Aldrich, Wevertown.
Dr. Jas. A. Bean, Lake George.
Dr. G. A. Chapman, Glens Falls.
Dr. J. E. Goodman, Jr., Warrensburgh.
Dr. Floyd Palmer, Glens Falls.
Dr. Geo. R. Thompson, Luzerne.
Dr. E. L. Wilson, Bolton Landing.
Mr. L. F. Goodson, Glens Falls.
Mr. W. S. Smead, Luzerne.
Mr. Chas. N. VanTrump, Glens Falls.
Mr. L. M. Pulver, Luzerne.
Dr. Alex McKee, Glens Falls.

WASHINGTON COUNTY

Dr. Wm. C. Cuthbert, Hudson Falls.
Dr. A. C. Dorval, Whitehall.
Dr. Geo. M. Glenn, Ft. Edward.
Dr. R. A. Heenan, Hudson Falls.
Dr. E. T. Horton, Whitehall.
Dr. Robt. H. Lee, South Hartford.
Dr. Jno. S. Guinan, Whitehall.
Dr. W. A. Leonard, Cambridge.
Dr. W. B. Madison, West Hebron.
Dr. John Millington, Greenwich.
Dr. C. A. Moore, Fort Ann.
Dr. Wm. L. Munson, Granville.
Dr. J. F. Niver, Cambridge.
Dr. Lewis R. Oatman, Greenwich.
Dr. M. E. Sargeant, Putnam.
Dr. G. M. Stillman, Argyle.
Dr. Geo. D. Wilde, Fort Edward.
Mr. Geo. Scott, Fort Edward.
Mr. S. B. Ambler, Hudson Falls.
Mr. Chas. H. Dixson, Greenwich.
Mr. I. V. H. Gill, Greenwich.
Dr. Wm. B. Melick, Fort Edward.

WAYNE COUNTY

Dr. C. H. Bennett, Sodus.
Dr. R. S. Carr, Williamson.
Dr. E. E. Esley, Walworth.
Dr. T. H. Hallett, Galen.
Dr. S. W. Houston, Wolcott.
Dr. C. P. Jennings, Macedon.
Dr. D. F. Johnson, Newark.
Dr. G. A. Jones, Huron.

Digitized by Google

Dr. Garry Mount, South Butler.
Dr. W. H. Sweeting, Savannah.
Dr. R. H. Watkins, Wolcott.
Dr. E. H. Wiedrich, Ontario.
Dr. Geo. D. Winchell, Rose.
Dr. A. A. Young, Newark.
Dr. G. D. Barrett, Clyde.
Mr. Allen Purdy, Macedon.

WESTCHESTER COUNTY

Dr. Oliver L. Austin, Tuckahoe.
Dr. Frederick S. Briggs, White Pl'ns.
Dr. Lewis H. Brown, Purdys Station.
Dr. E. H. Codding, New Rochelle.
Dr. W. S. Coons, Yonkers.
Dr. G. P. M. Curry, Mt. Kisco.
Dr. John P. Greene, Mamaroneck.
Dr. Robt. T. Irvine, Ossining.
Dr. L. W. Jones, Pleasantville.
Dr. F. R. Lyman, Hastings-on-Hudson.
Dr. E. deMotte Lyon, Peekskill.
Dr. Perley H. Mason, Peekskill.
Dr. W. W. Mills, Chappaqua.
Dr. L. E. Peeler, Harrison.
Dr. Charles M. Quinn, Mt. Vernon.
Dr. E. G. Ramsdell, White Plains.
Dr. Ralph R. Ryan, Scarsdale.
Dr. John A. Schafmeister, Ossining.
Dr. J. W. Small, North Tarrytown.
Dr. W. H. Todd, Dobbs Ferry.
Dr. E. N. Wilcox, Pleasantville.
Dr. Leroy W. Hubbard, Mt. Vernon.
Mr. John A. Strothkamp, Harrison.
Mr. R. C. Lockwood, White Plains.

WYOMING COUNTY

Dr. L. M. Andrews, Warsaw.
Dr. J. R. Brownell, Perry.
Dr. W. J. French, Pike.
Dr. W. B. Gifford, Attica.
Dr. P. S. Goodwin, Perry.
Dr. G. A. McQuilkin, Varysburg.
Dr. J. O. Randall, Silver Springs.
Dr. C. M. Smith, Johnsonburg.
Dr. L. E. Stage, Bliss.
Dr. Z. G. Truesdell, Warsaw.
Mr. C. N. Read, Perry.

YATES COUNTY

Dr. F. M. Chaffee, Middlesex.
Dr. M. E. Costello, Branchport.
Dr. Wm. H. Hawley, Dundee.
Dr. Schuyler Lott, Benton.
Dr. J. P. MacDowell, Dundee.
Dr. Frederick F. Maloney, Dundee.

FROM OTHER STATES

Dr. Bryson deH. McClosky, Harvard University.
Dr. W. A. Evans, Chicago, Ill.
Mrs. W. A. Evans, Chicago, Ill.
Dr. A. S. MacKnight, Fall River, Mass.
Mr. G. C. Whipple, Cambridge, Mass.
Mr. John W. Trask, Washington, D. C.
Mr. Ernest Kelly, Washington, D. C.
Miss Julia C. Lathrop, Washington, D. C.
Dr. W. R. Batt, Harrisburg, Pa.
Dr. A. C. Abbott, University of Pennsylvania.

Digitized by Google

Digitized by Google

REPORT OF THE PUBLIC HEALTH COUNCIL

[821]

Digitized by Google

Digitized by Google

REPORT OF THE PUBLIC HEALTH COUNCIL

His Excellency,

Charles S. Whitman,

Governor of the State of New York,

Albany, N. Y.

Sir:

The Public Health Council has the honor to submit the following report on the aims and organization of the council and its work from its creation in 1913 to December 31, 1914.

In accordance with the provisions of the Public Health Law of the State of New York, the Public Health Council consists of the Commissioner of Health and six appointive members. The duties of the council are primarily to establish sanitary regulations which may deal with any matters affecting the security of life or health or the preservation or improvement of public health in the State of New York except in the city of New York. This duty had previously been exercised by 1,438 local boards of health, which still retain the power of enacting supplementary regulations not inconsistent with the State Code. The council is charged with the duty of prescribing the qualifications of directors of divisions, sanitary supervisors, public health nurses, registrars of vital statistics and local health officers hereafter appointed. The council thus shares with the commissioner the responsibility for the wisdom and practicability of the health regulations, and in its advisory capacity, by his request or at its own initiative, may place at the disposal of the commissioner and at the service of the State such special knowledge and experience in subjects related to public health and welfare as its individual members command.

The membership, dates and terms of service, and details of the organization and meetings of the council are set forth below in the supplementary section of this Report — Appendix No. I.

The council has enacted and from time to time amended by-laws relating to its meetings and the transaction of business.

Seventeen formal meetings have been held, besides the numerous conferences of committees.

Digitized by Google

Qualifications of directors of divisions

As the Public Health Law provides for the conduct of the affairs of the State Department of Health in "Divisions," each of which is under the management of a director, it was thought desirable by the council at once to prescribe the qualifications of such of these as were to be presently appointed; namely, in the Division of Tuberculosis, of Child Hygiene, and of Vital Statistics. This was accordingly done, and copy of these qualifications is hereto annexed.— Appendix No. II.

Qualifications of sanitary supervisors

Similarly, since the Public Health Law provides for the division of the State into sanitary districts in each of which a sanitary supervisor counsels and assists the local health officers of his district and serves as a helpful intermediary between them and the central forces of the department, the qualifications and conditions of appointment of sanitary supervisors received the early attention of the council. A copy of these required qualifications is hereto annexed.— Appendix No. III.

Qualifications of public health nurses

The council has also prescribed the qualifications for public health nurses and for supervising nurses employed by the State Department of Health. Copies of these qualifications are hereto annexed.— Appendix No. IV.

Examination of candidates for sanitary supervisors by Civil Service Commission

It was the opinion of the council that the interest of the public service would best be served by placing the position of sanitary supervisor — twenty of whom were to be appointed according to the law — under Civil Service rules. A copy of a resolution expressing this opinion was accordingly filed with the Civil Service Commission. The council also submitted to the Civil Service Commission a list of experts in sanitary science and public health administration, requesting that the Commission should select from this list special examiners to assist in the examination of candidates for the position of sanitary supervisor. The Commission selected from this list the following:

Professor C.-E. A. Winslow, Professor of Biology, College of the City of New York; Curator of Public Health in the American Museum of Natural History.

Dr. W. H. Park, Director of the Laboratories of the Department of Health of the City of New York.

For this examination there were 174 applicants for the

Digitized by Google

position of sanitary supervisor, of whom the council found that 159 met the qualifications which it had prescribed and were therefore eligible to take the examination. The examination was held on March 7, 1914. Of 141 persons taking the examination the names of 87 were on the eligible list which was promulgated on April 24, 1914.

Aims of the council in framing the Sanitary Code

The council next turned to the urgent duty of framing a sanitary code for the State, and for several months during the late autumn of 1913 and the winter of 1914 was engaged in this important task, at the stated meetings, at frequent informal meetings of subcommittees, and as individuals to whom were assigned special themes for study and report.

In the framing of this sanitary code, the council steadily aimed to secure to the citizens of the State all the advantages which science and experience, especially during the last quarter of a century, have offered in the prevention of disease and in the promotion of the common welfare, with the least possible interference with the business, comfort and convenience of the people concerned.

It was necessary that the new provisions of the code should not conflict with, but be adapted to and supplement the numerous provisions of the Public Health Law, already in force, not only in the health but in other executive departments of the State.

The council has sought further to eliminate from the Sanitary Code of the State of New York — and this was especially necessary in the chapter dealing with the communicable diseases — the useless sanitary procedures which mark the views and practices of an earlier day, now replaced by exact knowledge; to abandon in its text those technical terms which though still often used have lost their earlier meanings and values, and also those which are not readily comprehensible to the citizens for whose use and guidance the code is framed.

Thus the council cherishes the hope that the sanitary code will prove to be effective, comprehensible, and not unnecessarily rigorous in view of the large advantage to all which the adoption and enforcement of a modern scientific code promise.

Digitized by Google

Chapter I Preliminary

The first two chapters of the code were duly established by the council on April 7, 1914, to take effect on May 1, 1914. The first, a general and preliminary chapter, was entitled "Definitions and General Provisions."

Chapter II Communicable Diseases

Chapter second, on communicable diseases, covers many of the most urgent and significant and often dramatic conditions with which health officials have to deal.

Here are dealt with such diseases as diphtheria, scarlet fever, typhoid fever and a score of others of this class, from which through early detection and report; through the destruction of infective material which incites them; and through simple precautions to prevent its spread, families and communities are safeguarded and the stricken individuals afforded the fullest security of recovery.

The requirements of this chapter in the prevention of the spread of disease and the suppression of epidemics really sum up the practical achievements of many years of scientific discovery and experience by certain precautions and regulations which centre in intelligent cleanliness. The older and most of the existing sanitary codes have much to say about quarantine and disinfection. This code centres attention on the care of waste material from sick people and others who harbor disease germs and the proper modes of simple cleanliness which protect the well and make quarantine and elaborate disinfection with their attendant expense and annoyance largely unnecessary.

Chapter III Milk and Cream

The council next took up the subject of the control of the milk supplies of the State. This is especially important because milk more commonly than any other article of food is liable, if improperly secured or handled, to afford a breeding place and distributing medium for disease germs, which through neglect of cleanliness and care readily contaminate it and may give rise to serious and often widespread disease.

Numerous consultations were held by committees and subcommittees, and an exhaustive examination was made of the provisions of the codes of New York city and of various other municipalities throughout the country. A public hearing was held in the capitol, to which leading

Digitized by Google

representatives of the producers, dealers and consumers were invited. To avoid confusion, it was the aim of the council to make the provisions of the State Code in regard to the grading of milk not inconsistent with the regulations of the New York City Code. This chapter was duly established on June 16, 1914, to take effect on November 16, 1914.

The principal features of these milk regulations are that retail milk dealers are required to obtain a permit from the local health officer; that all milk must be graded according to the score of the dairy, and, in the higher grades, to the bacterial count of the milk; and that all milk must be sold under one of the specified grades, thus indicating to the consumer the quality of the milk which he buys.

It was the sense of the council that to obtain the best results in the production and handling of milk, discretion, tact and good judgment should be exercised, especially in the beginning, by the health officer in scoring dairies.

It is believed that by this procedure not only the milk supplies of the State but the interests of the farmer may be safeguarded through such adequate pecuniary returns to him as the improvement in the quality of his milk may justify.

Chapter IV Midwives

The importance of the regulation of the practice of midwives, who attend a large percentage of the births in the State, was early brought to the attention of the council. The ignorance, incompetence, carelessness and uncleanly habits of many midwives are directly responsible for a large part of the avoidable mortality and preventable blindness of infants and an appalling number of injuries and deaths of mothers.

A careful study of the situation was made by the council, and a hearing was given on May 19, 1914, to the New York Committee for the Prevention of Blindness, from whom valuable suggestions were received. Chapter IV on Midwives was established by the council on June 16, 1914, to take effect on November 16, 1914. By this chapter all midwives are required to be licensed by the State Department of Health, certain qualifications for a license are established and regulations for practice provided.

Digitized by Google

The provisions of this chapter are by no means adequate to meet the requirements of modern science and practice in midwifery. But in the absence of adequate facilities for the proper education of midwives in the State, these regulations seem to afford a reasonable temporary safeguard pending the organization of suitable training schools or systems of instruction.

Chapter V
Labor Camps

The existence throughout the State, especially at certain seasons of the year, of a large number of labor and construction camps creates a peculiar and difficult factor in the health work of the State. These camps are not readily subject to adequate control by the local health authorities. They are nevertheless a source of serious danger through the pollution of water supplies and otherwise. These facts are recognized in the revised Public Health Law which specifically authorizes the Public Health Council to establish regulations in regard to labor camps.

During the autumn of 1914 at several successive meetings the council discussed drafts of regulations controlling labor camps, which had been prepared and revised by several committees. The main railroads in the State were given an opportunity to express their views after examining a proposed draft of regulations affecting labor camps. On October 20, 1914, Chapter V of the code, relating to Labor Camps, was duly established to take effect on January 1, 1915.

It is believed by the council that these camp regulations, without imposing undue burdens upon private campers or those responsible for labor or construction camps, will safeguard the citizens of the State against certain pollutions of water supplies and serious nuisances now not infrequent.

Chapter VI
Nuisances

The question of the suppression and removal of nuisances has often been the bane of the local health officer's administration. The council believes that this is largely due to doubt on the part of the local health authorities as to their duties and powers under the law.

The Public Health Law places this duty on the local boards of health, but gives the power of supervision to the State Commissioner of Health. The council felt that it

Digitized by Google

would be expedient also to charge the health officer with the duty of using his best endeavors, including such moral force as he could bring to bear, to alleviate conditions which amount to nuisances affecting health.

As the method of dealing with nuisances by the local boards is prescribed by the Public Health Law, the other provisions of the code in this respect are merely declaratory of that law and provide a definite procedure whereby the local and State health authorities can efficiently perform the respective duties laid upon them by the Legislature in the suppression of nuisances. This regulation controlling nuisances which may affect health was enacted by the council on December 18, 1914, to take effect on March 1, 1915. The council believes that when the machinery provided by this regulation is put into effect it will be a means of affording much needed relief to a very large number of the inhabitants of the State.

Chapter VII Spitting, common drinking cup, common towel, barber shops

The last chapter of the sanitary code thus far enacted by the council is entitled "Miscellaneous." This chapter includes regulations, similar in substance to those in force in the more enlightened states and cities of the country, relating to *spitting,* the *common drinking cup,* the *common towel,* and *barber shops.*

The opinion of local health officers throughout the State as to the desirability of including in the sanitary code regulations dealing with these occasional and often serious sources of disease was sought through the sanitary supervisors and it was found to be the almost unanimous opinion of the local health officers that such regulations should be included in the sanitary code.

Qualifications of local health officers

One of the most important subjects at present engaging the attention of the council is the fixing of qualifications of local health officers hereafter to be appointed. It is felt by the council that this matter goes to the very root of effective health administration in the State. For the share of the individual citizen in the striking and beneficent achievements of sanitary science and preventive medicine, and the direct advantage to him of a modern effective public health administration, depend in the end, upon the capacity, training, experience and personal devotion to the service, of his local health officer.

Digitized by Google

But owing to the existing lack of facilities for the training of the health officer, and to the comparative smallness of the salary — in view of the amount of labor which a conscientious and efficient local health officer should perform — the council realizes the impracticability of fixing at present the qualifications as high as is desirable.

It is the belief of the council that the solution of this pressing problem involves the education of physicians and others in modern preventive medicine by the creation of a school of young men interested in public health, who would form a source of supply of health officers. As a larger number of trained health officers become available it will be practicable for the council to raise from time to time the prescribed standards. To attract efficient young men to this important public service it is, of course, necessary to afford them attractive opportunity and adequate compensation.

Copies of the first seven chapters of the sanitary code are hereto annexed —Appendix No. V.

Dated, January 12, 1915

Respectfully submitted,

HERMANN M. BIGGS, *Chairman*
HOMER FOLKS, *Vice-Chairman*
ELLA L. BLAIR,
SIMON FLEXNER,
WILHELM GAERTNER,
HENRY N. OGDEN,
T. MITCHELL PRUDDEN,
DE LANCEY K. JAY, *Secretary*

Digitized by Google

APPENDIX I

Membership, organization and meetings of the council

On June 27, 1913, the following appointments to the Public Health Council were made by the Governor, pursuant to the provisions of chapter 559 of the Laws of 1913:

Chairman, term to expire January 1, 1914 — Hermann M. Biggs, M. D., LL. D., of New York City.

Member, term to expire January 1, 1915 — Homer Folks, LL. D., of Yonkers, N. Y., Secretary, State Charities Aid Association.

Member, term to expire January 1, 1916 — Mrs. Ella L. Blair of Albany, N. Y., President, General Federation of Women's Clubs.

Member, term to expire January 1, 1917 — Prof. Henry N. Ogden, C. E., of Ithaca, N. Y., Prof. Sanitary Engineering, Cornell University.

Member, term to expire January 1, 1918 — Simon Flexner, M. D., LL. D., of New York City, Director of Laboratories of Rockefeller Institute.

Member, term to expire January 1, 1919 — Edward Clark, M. D., of Buffalo, N. Y., and

Member, ex officio, Eugene H. Porter, M. D., State Commissioner of Health.

Dr. Biggs' term expired January 1, 1914. Dr. Porter having resigned as Commissioner of Health, Dr. Biggs was appointed Commissioner and appointed chairman of the council by the Governor, January 19, 1914.

On March 10, 1914, T. Mitchell Prudden, M. D., LL. D., of New York City, Vice-President, Board of Scientific Directors of the Rockefeller Institute, was appointed a member of the council, his term to expire on January 1, 1920.

On May 11, 1914, Dr. Edward Clark resigned from the council to accept the position of Sanitary Supervisor in the State Department of Health.

On July 23, 1914, Wilhelm Gaertner, M. D., of Buffalo, N. Y., was appointed to fill Dr. Clark's unexpired term.

All the foregoing members duly qualified shortly after their appointments.

At the first meeting of the council, Dr. Porter, then Commissioner of Health, upon request of the council, detailed the secretary of the State Department of Health, Mr. Alec H. Seymour, to act as secretary of the council.

Digitized by Google

On the resignation of Mr. Seymour, the present secretary of the department, Mr. DeLancey K. Jay, was detailed by Commissioner Biggs on February 24, 1914, at the request of the council, to act as its secretary.

The general powers and duties of the council are set forth in sections 2-a, 2-b and 2-c of the Public Health Law, as amended by chapter 559 of the Laws of 1913, as follows:

§ 2-a. **Public health council.** There shall be a public health council to consist of the commissioner of health, and six members hereinafter called the appointive members, to be appointed by the governor, of whom at least three shall be physicians and shall have had training or experience in sanitary science, and one shall be a sanitary engineer. Of the appointive members first appointed one shall hold office until January first, nineteen hundred and fourteen, one until January first, nineteen hundred and fifteen, one until January first, nineteen hundred and sixteen, one until January first, nineteen hundred and seventeen, one until January first, nineteen hundred and eighteen, and one until January first, nineteen hundred and nineteen, and the terms of office of members thereafter appointed, except to fill vacancies, shall be six years. Vacancies shall be filled by appointment for the unexpired term. The public health council shall meet as frequently as its business may require, and at least twice in each year. The governor shall designate one of the members of the public health council as its chairman. The commissioner of health upon the request of the public health council shall detail an officer or employee of the department of health to act as secretary of the public health council, and shall detail from time to time such other employees as the public health council may require. The public health council shall enact and from time to time may amend by-laws in relation to its meetings and the transaction of its business. The members of the public health council other than the commissioner of health shall each receive an annual salary of one thousand dollars and all members shall be reimbursed for their reasonable and necessary traveling and other expenses incurred in the performance of their official duties.

§ 2-b. **Sanitary code.** The public health council shall have power by the affirmative vote of a majority of its members to establish and from time to time amend sanitary regulations, hereinafter called the sanitary code, without discrimination against any licensed physicians. The sanitary code may deal with any matters

Digitized by Google

affecting the security of life or health or the preservation and improvement of public health in the state of New York, and with any matters as to which jurisdiction is hereinafter conferred upon the public health council. The sanitary code may include provisions regulating the practice of midwifery and for the promotion of health in any or all Indian reservations. Every regulation adopted by the public health council shall state the date on which it takes effect, and a copy thereof, duly signed by the secretary of the public health council, shall be filed in the office of the secretary of state, and a copy thereof shall be sent by the commissioner of health to each health officer within the state, and shall be published in such manner as the public health council may from time to time determine. The provisions of the sanitary code shall have the force and effect of law and any violation of any portion thereof may be declared to be a misdemeanor. No provision of the sanitary code shall relate to the city of New York or any portion thereof, and every provision of the sanitary code shall apply to and be effective in all portions of the state except the city of New York unless stated otherwise.

§ 2-c. **Enforcement of sanitary code.** The provisions of the sanitary code shall, as to matters to which it relates, and in the territory prescribed therefor by the public health council, supersede all local ordinances heretofore or hereafter enacted inconsistent therewith. Each city, town or village may, in the manner hereinafter prescribed, enact sanitary regulations not inconsistent with the sanitary code established by the public health council. The public health council shall have power to prescribe by regulations the qualifications of directors of divisions, sanitary supervisors, local health officers hereafter appointed and public health nurses.

The actions, proceedings and authority of the state health department in enforcing the provisions of the public health law and sanitary code applying them to specific cases shall at all times be regarded as in their nature judicial, and shall be treated as prima facie just and legal. All meetings of said public health council shall in every suit and proceeding be taken to have been duly called and regularly held, and all regulations and proceedings to have been duly authorized unless the contrary be proved.

The public health council shall have no executive, administrative or appointive duties. It shall, at the request of the commissioner of health, consider any matter relating to the preservation and

Digitized by Google

improvement of public health, and may advise the commissioner thereon; and it may from time to time submit to the commissioner any recommendations which it may deem wise.

Seventeen formal meetings have been held by the council as follows:

(1)	Sept.	30, 1913.	The Capitol, Albany.
(2)	Oct.	14, 1913.	Rockefeller Institute, N. Y. City.
(3)	Oct.	24, 1913.	City Club, N. Y. City.
(4)	Dec.	2, 1913.	113 W. 57th st., N. Y. City.
(5)	Jan.	21, 1914.	The Capitol, Albany.
(6)	Feb.	10, 1914.	Academy of Medicine, N. Y. City.
(7)	Feb.	24, 1914.	Academy of Medicine, N. Y. City.
(8)	March	3, 1914.	The Capitol, Albany.
(9)	March	13, 1914.	State Health Dept., N. Y. office, 25 W. 45th st., N. Y. City.
(10)	April	7, 1914.	The Capitol, Albany.
(11)	April	21, 1914.	State Health Dept., N. Y. office, 25 W. 45th st., N. Y. City.
(12)	May	19, 1914.	State Health Dept., N. Y. office, 25 W. 45th st., N. Y. City.
(13)	June	16, 1914.	The Capitol, Albany.
(14)	Sept.	16, 1914.	Annual Conference of Health Officers, Saratoga Springs.
(15)	Oct.	20, 1914.	State Health Dept., N. Y. office, 25 W. 45th st., N. Y. City.
(16)	Nov.	16, 1914.	State Health Dept., N. Y. office, 25 W. 45th st., N. Y. City.
(17)	Dec.	18, 1914.	State Health Dept., N. Y. office, 25 W. 45th st., N. Y. City.

APPENDIX II

Qualifications of directors of divisions

Resolved, That the director of the division of tuberculosis shall possess the following qualifications:

Division of Tuberculosis

1. He shall be a physician of not less than five years' standing.

2. He shall have submitted proof satisfactory to the Public Health Council, or a duly authorized committee thereof, either that he has had special experience in the diagnosis and management of

Digitized by Google

tuberculosis, or that he has actively participated for not less than two years in work for the prevention of tuberculosis.

Division of Vital Statistics

Resolved, That the director of the division of vital statistics shall possess the following qualifications:

He shall have had at least five years' experience in the collection, interpretation and publication of vital statistics.

Division of Child Hygiene

Resolved, That the director of the division of child hygiene shall possess the following qualifications:

1. He shall be a physician of not less than five years' standing.

2. He shall have submitted proof satisfactory to the Public Health Council, or a duly authorized committee thereof, that he has had special training and experience covering a period of four years, either in the prevention of infant mortality, or in the medical inspection of school children, or in an institution caring for sick children.

APPENDIX III

Qualifications of sanitary supervisors

Resolved, That each sanitary supervisor to be appointed pursuant to the provisions of section 4-a of the Public Health Law, as amended by chapter 559 of the Laws of 1913, shall possess the following qualifications:

1. He shall be a physician.

2. He shall, when appointed, be not less than twenty-eight nor more than sixty years of age.

3. He shall either (*a*) have served as a health officer of a city, town or village having a population of not less than 3,000 persons, for a period of at least four years; or (*b*) shall have received instruction approved by the Public Health Council, or a duly authorized committee thereof, in sanitary science, including five hours' instruction per week during the school year, in an educational institution, and shall have had at least two years' experience in public health work; or (*c*) shall have received a degree, certificate or diploma in public health granted after the completion of a course approved by the Public Health Council, in an educational

Digitized by Google

institution, and at least one year's practical experience in public health work; or (*d*) shall have submitted proof satisfactory to the Public Health Council, or a duly authorized committee thereof, that he has actively engaged in some form of public health work for a period of at least two years.

APPENDIX IV

Qualifications of nurses

Supervising nurses

Resolved, That supervising public health nurses employed by the State Department of Health shall possess the following qualifications:

1. They shall be registered nurses.
2. They shall submit evidence, satisfactory to the Public Health Council, of training and experience of not less than two years after graduation, in one or more of the following lines of work:
   - (*a*) Maternity work;
   - (*b*) Infant welfare work;
   - (*c*) Social service;
   - (*d*) Tuberculosis work;
   - (*e*) Care of communicable diseases, and
   - (*f*) School nursing.
3. They shall be, when appointed, not less than twenty-five years of age.

Public health nurses

Resolved, That public health nurses shall possess the following qualifications:

They shall be registered nurses twenty-one years of age at the time of their appointment.

APPENDIX V

The sanitary code established by the Public Health Council of the State of New York

Introductory Note

The Public Health Law of the State of New York, as amended by chapter 559 of the Laws of 1913, provides as follows:

Section 2-b. Sanitary code. The public health council shall have power by the affirmative vote of a majority of its members to establish and from time to time amend sanitary regulations, hereinafter called the sanitary code, without discrimination against any

Digitized by Google

licensed physicians. The sanitary code may deal with any matters affecting the security of life or health or the preservation and improvement of public health in the state of New York, and with any matters as to which jurisdiction is hereinafter conferred upon the public health council. The sanitary code may include provisions regulating the practice of midwifery and for the promotion of health in any or all Indian reservations. * * * The provisions of the sanitary code shall have the force and effect of law and any violation of any portion thereof may be declared to be a misdemeanor. No provision of the sanitary code shall relate to the city of New York or any portion thereof, and every provision of the sanitary code shall apply to and be effective in all portions of the state except the city of New York unless stated otherwise.

Section 2-c. Enforcement of sanitary code. The provisions of the sanitary code shall, as to matters to which it relates, and in the territory prescribed therefor by the public health council, supersede all local ordinances heretofore or hereafter enacted inconsistent therewith. Each city, town, or village may, in the manner hereinafter prescribed, enact sanitary regulations not inconsistent with the sanitary code established by the public health council. The public health council shall have power to prescribe by regulations the qualifications of directors of divisions, sanitary supervisors, local health officers hereafter appointed and public health nurses. * * *

Under the public health law, all local health officers have the power, and it is their duty, to carry into effect in their respective jurisdictions the provisions of the public health law and the sanitary code, and the orders and regulations, not inconsistent therewith, of their respective boards of health.

The state commissioner of health, under the same law, has the power, and it is his duty, to exercise general supervision over the work of all local health authorities, except in the city of New York, and to see that the provisions of the public health law and the sanitary code are enforced.

The sanitary code supplements but does not take the place of the provisions of the public health law or of any amendments thereto, or of any of the laws relating to the public health or to the powers or duties of the state commissioner of health, the state department of health, local boards of health or local health officers.

Additions to the sanitary code will be made from time to time.

Digitized by Google

CHAPTER I

Definitions and General Provisions

Regulation 1. Definitions. Unless otherwise specifically provided herein, the following words and terms used in this code are defined for the purposes thereof as follows:

(1) The term "communicable disease" means such communicable disease as may be designated in regulation one of chapter two of this code.

(2) The term "municipality" means and includes a city, town, or village.

(3) The term "board of health" or "local board of health" means and includes the local board, department, or commissioner of health, or other body or official, of a municipality, by whatever title the same may be known, having the usual powers and duties of the board of health of a municipality.

(4) The term "health officer" or "local health officer" means and includes the health officer, or other officer of a municipality, by whatever title he may be known, having the usual powers and duties of the health officer of a municipality.

Regulation 2. Violations declared to be misdemeanors. Any violalation of any provision of this code is hereby declared to be a misdemeanor and is punishable by a fine of not more than two hundred dollars or by imprisonment for not more than six months, or by both.

Regulation 3. When to take effect. Every regulation in this chapter, unless otherwise specifically stated, shall take effect on the first day of May, 1914.

CHAPTER II

Communicable Diseases

Regulation 1. Communicable diseases designated. For the purpose of this code, the term communicable disease shall be held to include the following diseases, which are hereby declared to be communicable through the conveyance of infective organisms:

Anthrax
Chickenpox
Cholera, Asiatic
Diphtheria (membranous croup)
Dysentery, amoebic and bacillary
Epidemic cerebrospinal meningitis
Epidemic or streptococcus (septic) sore throat

Digitized by Google

German measles
Glanders
Measles
Mumps
Ophthalmia neonatorum
Para-typhoid fever
Plague
Poliomyelitis, acute anterior (infantile paralysis)
Puerperal septicaemia
Rabies
Scarlet fever
Smallpox
Trachoma
Tuberculosis
Typhoid fever
Typhus fever
Whooping cough.

Regulation 2. Reporting cases of communicable disease by physicians. It shall be the duty of every physician to report to the local health officer, within whose jurisdiction such patient is, the full name, age, and address of every person affected with a communicable disease, together with the name of the disease, within twenty-four hours from the time when the case is first seen by him. Such report shall be by telephone or telegram, when practicable, and shall also be made in writing.

Regulation 3. Reporting cases of communicable disease in institutions. It shall be the duty of the superintendent or person in charge of every hospital, other institution, or dispensary, to report to the local health officer, within whose jurisdiction any such hospital, other institution, or dispensary is located, the full name, age, and address of every person under his charge affected with a communicable disease, together with the name of the disease, within twenty-four hours from the time when the case first develops or is first admitted to such hospital, other institution, or dispensary. Such report shall be by telephone or telegram, when practicable, and shall also be made in writing.

Regulation 4. Reporting cases of disease presumably communicable in schools. When no physician is in attendance, it shall be the duty of every teacher to report forthwith to the principal or person in charge of the school all facts relating to the illness and physical condition of

Digitized by Google

any child in such school who appears to be affected with a disease presumably communicable. It shall be the duty of the principal or person in charge of every school to report forthwith to the local health officer all facts relating to the illness and physical condition of any child attending such school, who appears to be affected with any disease presumably communicable, together with name, age, and address of such child. Such child shall be at once sent home or isolated.

Regulation 5. Reporting cases of disease presumably communicable in private households, hotels, boarding and lodging houses. When no physician is in attendance, it shall be the duty of the head of a private household or the proprietor or keeper of any hotel, boarding house, or lodging house, to report forthwith to the local health officer all facts relating to the illness and physical condition of any person in any private household, hotel, boarding house or lodging house under his charge, who appears to be affected with any disease presumably communicable, together with the name of such person.

Regulation 6. Reporting cases of disease presumably communicable by nurses and persons in charge of camps. It shall be the duty of every visiting nurse and public health nurse and of the person in charge of any labor or other camp, having knowledge of any person affected with any disease presumably communicable, who by reason of the danger to others seems to require the attention of the public health authorities, to report at once to the local health officer, within whose jurisdiction such case occurs, all facts relating to the illness and physical condition of such affected person.

Regulation 7. Reporting cases of disease presumably communicable on vessels. It shall be the duty of the master or person in charge of any vessel lying within the jurisdiction of the state to report or cause to be reported immediately in writing to the local health officer, at such ports or landings as the state commissioner of health may designate all facts relating to the illness and physical condition of any person in or on such vessel affected with any disease presumably communicable, together with the name of such affected person. This regulation shall not apply to any vessel within the jurisdiction of the health officer of the port of New York.

Regulation 8. Reporting cases of communicable disease on dairy farms by physicians. When a case of Asiatic cholera, diphtheria, amoebic or bacillary dysentery, epidemic cerebrospinal meningitis, epidemic or septic sore throat, measles, para-typhoid fever, scarlet fever, smallpox, or typhoid fever exists on any farm or dairy producing milk, cream, butter, or other dairy products for sale, it shall

Digitized by Google

be the duty of the physician in attendance to report immediately to the local health officer the existence on such farm or dairy of such case.

It shall be the duty of the health officer to report immediately to the state commissioner of health, by telephone or telegram, the existence on such farm or dairy of such case, together with all facts as to the isolation of such case, and giving the names of the localities to which such dairy products are delivered.

Regulation 9. Reporting cases of disease presumably communicable on dairy farms by owner or person in charge. When no physician is in attendance, it shall be the duty of the owner or person in charge of any farm or dairy producing milk, cream, butter, cheese, or other food products likely to be consumed raw, to report forthwith to the local health officer the name and address and all facts relating to the illness and physical condition of any person, who is affected with any disease presumably communicable, and who is employed or resides on or in such farm or dairy, or comes in contact in any way therewith or with its products.

Regulation 10. Diphtheria; material for cultures to be submitted. In every case of illness which there is reason to suspect is diphtheria, it shall be the duty of the attending physician or, if the local health authorities so require, of the health officer promptly to take material for cultures from the throat of the suspected person and submit the same for examination to a state, county, or municipal bacteriological laboratory, or to a laboratory approved by the state commissioner of health.

Regulation 11. Isolation of persons affected with communicable diseases. It shall be the duty of every physician, immediately upon discovering a case of communicable disease, to secure such isolation of the patient, or to take such other action, as is required by the special rules and regulations which from time to time may be issued by the local health authorities or by the state department of health.

Regulation 12. Adults not to be quarantined in certain cases. When a person affected with a communicable disease is properly isolated on the premises, except in cases of smallpox, adult members of the family or household, who do not come in contact with the patient or with his secretions or excretions, unless forbidden by the health officer, may continue their usual vocations, provided such vocations do not bring them in close contact with children.

Regulation 13. Removal of cases of communicable disease. After isolation by the local health officer no person, without permission from him, shall carry, remove, or cause or permit to be carried or removed

Digitized by Google

from any room, building, or vessel, any person affected with diphtheria, scarlet fever, smallpox, or typhus fever.

Without permission from the local health officer no person shall carry, remove, or cause or permit to be carried or removed from any hotel, boarding house, lodging house, or other dwelling, any person affected with chickenpox, diphtheria, epidemic cerebrospinal meningitis, epidemic or septic sore throat, measles, mumps, poliomyelitis (infantile paralysis), scarlet fever, smallpox, typhus fever, or whooping cough.

Without permission from the local health officer no master of any vessel or other person shall remove or aid in removing, or permit the removal, from any such vessel to the shore of any person affected with any communicable disease.

This regulation shall not apply to any vessel within the jurisdiction of the health officer of the port of New York.

Regulation 14. Removal of articles contaminated with infective material. Without permission from the local health officer no person shall carry, remove, or cause or permit to be carried or removed from any room, building, or vessel, any article which has been subject to contamination with infective material through contact with any person or with the secretions of any persons affected with Asiatic cholera, diphtheria, scarlet fever, smallpox, typhoid fever, or typhus fever. until such article has been disinfected according to the special rules and regulations of the state department of health.

Without permission of the local health officer no master of any vessel or other person shall remove or aid in removing or permit the removal from any such vessel to the shore of any article which has been subject to contamination with infective material through contact with any person or with the secretions of any person affected with Asiatic cholera. diphtheria, scarlet fever, smallpox, typhoid fever, or typhus fever.

This regulation shall not apply to any vessel within the jurisdiction of the health officer of the port of New York.

Regulation 15. Right of entrance and inspection. No person shall interfere with or obstruct the entrance to any house, building, or vessel by any inspector or officer of the state or local health authorities. in the discharge of his official duties, nor shall any person interfere with or obstruct the inspection or examination of any occupant of any such house, building, or vessel by any inspector or officer of the state or local health authorities, in the discharge of his official duties.

Regulation 16. Instructions as to disinfection of excreta in Asiatic cholera, dysentery, para-typhoid fever, and typhoid fever. It shall be the duty of the physician in attendance on any case suspected by him to be Asiatic cholera, dysentery, para-typhoid fever, or typhoid fever, to

Digitized by Google

give detailed instructions to the nurse or other person in attendance in regard to the disinfection and disposal of the excreta. Such instructions shall be given on the first visit, and shall conform to the special rules and regulations of the state department of health. It shall be the duty of the nurse or person in attendance to carry out the disinfection in detail until its discontinuance is permitted by the local health officer.

Regulation 17. Instructions as to disinfection of discharges in diphtheria, epidemic cerebrospinal meningitis, epidemic or septic sore throat, measles, poliomyelitis (infantile paralysis), scarlet fever, smallpox, and whooping cough. It shall be the duty of the physician in attendance on any case suspected by him to be diphtheria, epidemic cerebrospinal meningitis, epidemic or septic sore throat, measles, poliomyelitis (infantile paralysis), scarlet fever, smallpox, or whooping cough, to give detailed instructions to the nurse or other person in attendance in regard to the disinfection and disposal of the discharges from the nose, mouth and ears of the patient. Such instructions shall be given on the first visit and shall conform to the special rules and regulations of the state department of health. It shall be the duty of the nurse or person in attendance to carry out the disinfection in detail until its discontinuance is permitted by the local health officer.

Regulation 18. Precautions to be observed by physicians and attendants. The physician or nurse or other necessary attendant upon a case of diphtheria, measles, or scarlet fever, after attendance upon the case, shall take precautions and practice measures of cleansing or disinfection of his person or garments to prevent the conveyance to others of infective material from the patient.

Regulation 19. Distribution of circulars. It shall be the duty of every health officer, as soon as a case of diphtheria, epidemic cerebrospinal meningitis, epidemic or septic sore throat, measles, poliomyelitis (infantile paralysis), scarlet fever, smallpox, typhoid fever, typhus fever, or whooping cough is reported to him, or as soon thereafter as possible, to give every family or individual living in the house or building, in which such case is, the circulars of information and copies of any rules and regulations, printed in a language understood by such individual, concerning such diseases which may be issued by the state department of health or the local health authorities. The health officer shall also notify every family or individual living in the house of the existence of such disease.

Regulation 20. Posting placards. When a case of diphtheria, epidemic cerebrospinal meningitis, measles, poliomyelitis (infantile paralysis), scarlet fever, smallpox, or typhus fever exists in any house, or apartment, or room, it shall be the duty of the health officer to post

Digitized by Google

upon such house, or apartment, or room, or rooms, in which such case is isolated, near the entrance thereof, a placard stating the existence therein of a communicable disease.

Regulation 21. Interference with placards. No person shall interfere with or obstruct the posting of any placard by any health authority in or on any place or premises, nor shall any person conceal, mutilate, or tear down any such placard, except by permission of the health authority.

In the event of such placard being concealed, mutilated, or torn down, it shall be the duty of the occupant of the premises concerned immediately to notify the local health officer.

Regulation 22. Preventing the spread of communicable diseases in institutions. It shall be the duty of the superintendent or person in charge of any hospital, or other institution, or dispensary, in which there is a person affected with any communicable disease, to take such steps as will, so far as practicable, prevent the spread of infective material.

Regulation 23. Isolation wards required for institutions for children. Every institution for children, in which twenty or more children sleep, shall be provided with at least one isolation ward, or room or apartment or tent, so related to the rest of the building as to make proper isolation therein practicable.

Regulation 24. Exposure of persons affected with communicable disease. No person shall permit any child, minor, or other person under his charge, affected with diphtheria, measles, scarlet fever, smallpox, or typhus fever, to associate with others than his attendants.

No person affected with any of said diseases shall expose himself in such manner as to cause or contribute to, promote or render liable their spread.

Regulation 25. Needless exposure to communicable disease forbidden. No person shall expose or permit the visiting, association, or contact of any child, minor, or other person under his charge, with any person affected with diphtheria, measles, scarlet fever, smallpox, typhus fever, or whooping cough, or with discharges of any kind from the person of a patient affected with any of said diseases.

No person shall needlessly expose himself, or visit, or associate, or come in personal contact with, a case of any of said diseases, or the discharges therefrom, or in any manner cause or contribute to, promote or render liable, the spread thereof.

Regulation 26. Exclusion from school of cases of disease presumably communicable. It shall be the duty of the principal or other person in charge of any public, private, or Sunday school to exclude therefrom

Digitized by Google

any child or other person affected with a disease presumably communicable until such child or other person shall have presented a certificate issued by the health officer, or by the attending physician and countersigned by the health officer, stating that such child or other person is not liable to convey infective material.

Regulation 27. Exclusion from schools and gatherings of cases of certain communicable diseases. No person affected with chickenpox, diphtheria, epidemic cerebrospinal meningitis, epidemic or septic sore throat, German measles, measles, mumps, poliomyelitis (infantile paralysis), scarlet fever, smallpox, trachoma, or whooping cough, shall attend or be permitted to attend any public, private, or Sunday school, or any public or private gathering. Such exclusion shall be for such time and under such conditions as may be prescribed by the local health authorities, not inconsistent with the provisions of this code or the special rules and regulations of the state department of health.

Regulation 28. Exclusion from schools and gatherings of children of households where certain communicable diseases exist. Every child who is an inmate of a household in which there is, or has been within fifteen days, a case of chickenpox, diphtheria, epidemic cerebrospinal meningitis, German measles, measles, mumps, poliomyelitis (infantile paralysis), scarlet fever, smallpox, or whooping cough, shall be excluded from every public, private, or Sunday school and from every public or private gathering of children for such time and under such conditions as may be prescribed by the local health authorities, not inconsistent with the provisions of this code or the special rules and regulations of the state department of health

Regulation 29. Precautions to be observed in chickenpox, German measles, mumps, and whooping cough. No person affected with chickenpox, German measles, mumps, or whooping cough shall be permitted to come in contact with or to visit any child who has not had such disease or any child in attendance at school.

Regulation 30. Isolation or removal in smallpox. It shall be the duty of every health officer, whenever a case of smallpox occurs in his jurisdiction, if a suitable hospital is available, to remove or cause to be removed, such case promptly thereto. Every inmate of the household where such case occurs, and every person who has had contact with such case, or with his secretions or excretions, shall be either vaccinated within three days of his first exposure to the disease or placed under quarantine, and, when vaccinated, the name and address of such inmate or other person shall be taken and such inmate or other person shall be kept under daily observation. Such observation shall continue until successful vaccination results, or for at least twenty days. If such

Digitized by Google

inmate or other person refuses to be vaccinated, he shall be quarantined until discharged by the local health officer.

If there is no hospital available, the patient shall be isolated and every inmate of the household shall be vaccinated or strictly quarantined until discharged by the local health officer.

Whenever a case of smallpox occurs in his jurisdiction, it shall be the duty of the local health officer to use all diligence in securing the names and addresses of all persons who have had contact with such case, and in causing such persons to be either vaccinated or placed under quarantine.

Regulation 31. Provision for free vaccination. It shall be the duty of the board of health of every municipality to provide, at public expense, free vaccination for all persons in need of the same.

Regulation 32. Removal to hospital or isolation and restriction of visiting in certain cases. It shall be the duty of the health officer to remove, or cause to be removed, every case of diphtheria, measles, or scarlet fever promptly to a suitable hospital, or to see that such case is properly isolated. Such isolation shall be maintained until its discontinuance is permitted by the health officer.

No person, except the physician and the nurse or other person in attendance, shall be permitted to come in contact with or to visit a case of diphtheria, measles, or scarlet fever, except by permission of the health officer.

Regulation 33. Removal to hospital from lodging houses, hotels, or boarding houses, or isolation, and provision for persons who cannot be removed. It shall be the duty of the health officer, whenever a case of diphtheria, scarlet fever, or typhus fever occurs in a lodging house, hotel, or boarding house within his jurisdiction, if a suitable hospital is available, to remove or cause to be removed such case promptly thereto, unless, in the judgment of such officer, the case can be safely isolated on the premises.

If there be no proper hospital available, or if, for any sufficient reason, such case cannot be removed, it shall be the duty of the municipal authorities to make provision, when necessary, for the medical and nursing care of such case in such lodging house, hotel, or boarding house, and the local health officer may, if in his judgment such action seems necessary, remove or cause to be removed the other inmates therefrom.

Regulation 34. Quarantine in certain emergencies. When any case of diphtheria, epidemic cerebrospinal meningitis, measles, scarlet fever, smallpox, or typhus fever is not or cannot be properly isolated on the premises and cannot be removed to a suitable hospital, it shall be the

Digitized by Google

duty of the local health officer to forbid any member of the household from leaving the premises, except under such conditions as he may specify and except as provided by regulation twelve of this chapter.

Regulation 35. Maximum period of incubation. For the purpose of this code, the maximum period of incubation (that is, between the date of the exposure to disease and the date of its development), of the following communicable diseases is hereby declared to be as follows:

Chickenpox	21 days
Measles	14 days
Mumps	21 days
Scarlet fever	7 days
Smallpox	20 days
Whooping cough	14 days

Regulation 36. Minimum period of isolation. The minimum period of isolation, within the meaning of this code, shall be as follows:

Chickenpox, until twelve days after the appearance of the eruption and until the crusts have fallen and the scars are completely healed.

Diphtheria (membranous croup), until two successive negative cultures have been obtained from the nose and throat at intervals of twenty-four hours.

Measles, until ten days after the appearance of the rash and until all discharges from the nose, ears and throat have disappeared and until the cough has ceased.

Mumps, until two weeks after the appearance of the disease and one week after the disappearance of the swelling.

Scarlet fever, until thirty days after the development of the disease and until all discharges from the nose, ears and throat, or suppurating glands have ceased.

Smallpox, until fourteen days after the development of the disease and until scabs have all separated and the scars completely healed.

Whooping cough, until eight weeks after the development of the disease or until one week after the last characteristic cough.

Regulation 37. Sale of foods forbidden in certain cases. When a case of diphtheria, epidemic or septic sore throat, amoebic or bacillary dysentry, epidemic cerebrospinal meningitis, scarlet fever, smallpox, or typhoid fever, exists on any farm or dairy producing milk, cream, butter, cheese, or other foods likely to be consumed raw, no such foods shall be sold or delivered from such farm or dairy, except under the following conditions:

(a) That such foods are not brought into the house where such case exists;

Digitized by Google

(b) That all persons coming in contact with such foods eat, sleep and work wholly outside such house;

(c) That such persons do not come in contact in any way with such house or its inmates or contents;

(d) That said inmates are properly isolated and separated from all other parts of said farm or dairy, and efficiently cared for; and

(e) That a permit be issued by the health officer.

Regulation 38. Destruction of foods in certain cases. When a case of diphtheria, epidemic or septic sore throat, amoebic or bacillary dysentery, epidemic cerebrospinal meningitis, scarlet fever, smallpox, or typhoid fever exists on any farm or dairy producing milk, cream, butter, cheese, or other foods likely to be consumed raw, the state commissioner of health or the local health officer may destroy or order the destruction of any such foods which in his opinion may have been so contaminated as to be a source of danger, and the local authorities may compensate the owner for foods so destroyed.

Regulation 39. Handling of food forbidden in certain cases. No person affected with any communicable disease shall handle food or food products intended for sale, which are likely to be consumed raw or liable to convey infective material.

No person who resides, boards, or lodges in a household where he comes in contact with any person affected with bacillary dysentery, diphtheria, epidemic or septic sore throat, measles, scarlet fever, or typhoid fever, shall handle food or food products intended for sale.

No waiter, waitress, cook, or other employee of a boarding house, hotel, restaurant, or other place where food is served, who is affected with any communicable disease, shall prepare, serve, or handle food for others in any manner whatsoever.

No waiter, waitress, cook, or other employee of a boarding house, hotel, restaurant, or other place where food is served, who lodges or visits in a household where he comes in contact with any person affected with bacillary dysentery, diphtheria, epidemic or septic sore throat, measles, scarlet fever, or typhoid fever, shall prepare, serve, or handle food for others in any manner whatsoever.

Regulation 40. Carriers of disease germs. Any person who is a carrier of the disease germs of Asiatic cholera, bacillary dysentery, diphtheria, epidemic cerebrospinal meningitis, poliomyelitis (infantile paralysis), or typhoid fever, shall be subject to the special rules and regulations of the state department of health.

Regulation 41. Reports of food poisoning. When any physician or the superintendent or person in charge of any hospital, other institution,

Digitized by Google

or dispensary, or any visiting nurse or public health nurse, or the person in charge of any labor or other camp shall have knowledge of the occurrence of a number or group of cases of severe or fatal illness believed to have been due to the consumption of articles of food suspected to have been spoiled or poisonous, it shall be the duty of such physician, superintendent, nurse, or other person to report the same immediately, by telephone or telegram, when practicable, to the state commissioner of health and to the local health officer in whose jurisdiction such cases occur.

It shall be the duty of the local health officer to report immediately to the state commissioner of health, by telephone or telegram, when practicable, the occurrence of a number or group of such cases.*

Regulation 42. Duties of physicians and other persons concerning tuberculosis. It shall be the duty of every physician or other person required to perform any duty under sections three hundred and twenty to three hundred and thirty, both inclusive, of article sixteen of the public health law, providing for the reporting and control of cases of tuberculosis, to take all steps incumbent on him and necessary to carry into effect the provisions of the said law.

Regulation 43. Inoculation with living bacteria. The use of living bacterial organisms in the inoculation of human beings for the prevention or treatment of disease is hereby prohibited until full and complete data regarding the method of use, including a specimen of the culture and other agents employed therewith, and a full account of the details of preparation, dosage, and administration, shall have been submitted to the state commissioner of health and until permission shall have been granted in writing by the state commissioner of health for the use of the same.

Regulation 44. Inspection of laboratories. The state commissioner of health, or his authorized representative, shall have authority to inspect every bacteriological or chemical laboratory doing work for the health authorities of the state or of any county or municipality therein. He may advise the person in charge of such laboratory as to the methods employed in the examination which in any way affect the public health, and he may report the result of the inspection to the authorities of the county or municipality employing such laboratory.

Regulation 45. Cleansing, renovation, and disinfection required. Adequate *cleansing* of rooms, furniture and belongings, when deemed necessary by the local health officer, or required by this code or otherwise by law, shall immediately follow the recovery, death, or removal

* This regulation is included here for convenience in notification and regulation.

Digitized by Google

of a person affected with a communicable disease. Such cleansing shall be performed by and at the expense of the *occupant* of said premises, upon the order and under the direction of the local health officer, in accordance with the regulations of the sanitary code.

Adequate *renovation* of premises, when deemed necessary by the local health officer, or required by this code or otherwise by law, shall immediately follow the recovery, death, or removal of a person affected with a communicable disease. Such renovation shall be performed by and at the expense of the *owner* of said premises or his agents, upon the order and under the direction of the local health officer, in accordance with the regulations of the sanitary code.

Adequate *disinfection* of premises, furniture and belongings, when deemed necessary by the local health officer or required by this code or otherwise by law, shall immediately follow the recovery, death, or removal of a person affected with a communicable disease. Such disinfection shall be performed by or under the direction of the local health officer in accordance with the regulations of the sanitary code and at the *public expense* unless otherwise provided pursuant to law.

Regulation 46. Methods and precautions in cleansing, renovation and disinfection. The following methods and precautions shall be observed in cleansing, renovation and disinfection:

(a) *Cleansing* shall be secured by the thorough removal of dust and other contaminating material in such a way as to prevent the entry thereof, as far as may be possible, into other rooms or dwellings; washing with soap and water; scouring; airing; and exposure to sunlight; in accordance with the special rules and regulations of the state department of health.

(b) *Renovation* shall be secured by removing old paper from walls and repainting, recalcimining, or repapering of walls, ceilings, and woodwork as may be ordered by the local health officer in accordance with the special rules and regulations of the state department of health.

(c) *Disinfection* of rooms shall be secured by the use of such disinfecting agents in such quantities and in such manner and of such sterilizing procedures as may be ordered by the local health officer, in accordance with the special rules and regulations of the state department of health. When gaseous disinfectants are to be used, all cracks crevices, and openings into the room shall first be pasted over with paper. Thereafter, all rugs, carpets, upholstered furniture, and such textile fabrics in the said room as cannot, in the opinion of the local health officer, be washed or soaked in a disinfecting solution, may be removed for disinfection by steam when ordered by the local health

Digitized by Google

officer, in accordance with the special rules and regulations of the state department of health.*

Regulation 47. Destruction of furniture, clothing and other articles. Furniture, bedding, clothing, carpets, rugs, and other articles, which may have been contaminated with infective material from any case of diphtheria, scarlet fever, or smallpox, and which are of such a nature or in such condition that they cannot, in the opinion of the local health officer, be properly cleansed, disinfected, or sterilized, shall upon his order be destroyed in the manner designated by him.

Regulation 48. Cleansing and disinfection of the person. It shall be the duty of the patient, upon convalescence or recovery from any communicable disease, and of the nurse or persons in attendance on such case, throughout the course of the disease as well as at its close, suitably to cleanse and, when necessary, to disinfect their persons in accordance with the manner prescribed by the special rules and regulations of the state department of health.

Regulation 49. Letting of rooms forbidden while contaminated with infective material. No proprietor of a hotel, boarding house, or lodging house shall let for hire or cause or permit anyone to occupy a room or apartment previously occupied by a person affected with diphtheria, epidemic cerebrospinal meningitis, measles, poliomyelitis (infantile paralysis), scarlet fever, smallpox, tuberculosis, or typhus fever, until such room or apartment has been cleansed, renovated, or disinfected, under the direction of the local health officer.

When an order requiring the cleansing, renovation, or disinfection of articles or premises is not complied with, the local health officer shall post a placard on the premises, reading as follows:

"Notice: These apartments have (or this room has) been occupied by a person affected with..... They (or it) must not again be occupied until orders for cleansing, renovation, or disinfection have been complied with. This notice must not be removed under penalty of the law.

Date.....

.....Health Officer."

Regulation 50. Duties of common carriers during epidemics. Whenever the state commissioner of health shall make public declaration of the existence of an epidemic of a communicable disease in any municipality, and shall notify the local health board or officer of such

* Thorough cleansing, the use of soap and water, and full exposure to fresh air and sunlight are most efficient means of removing infective material, not only from the walls and floors of rooms, but also from furniture and other articles.

Digitized by Google

declaration, the state commissioner of health may declare, and his declaration shall have the force and effect of law, that no common carrier shall receive or admit any person for carriage or transportation in such municipality except upon the presentation and surrender to the agent, conductor, or other person in charge of the conveyance, in which such person desires to travel, of a certificate by the local health officer to the effect that such person is, in the opinion of the officer issuing the same, free from the disease then epidemic, and that such person may be received and carried without danger to the general public health, and giving in plain, legible writing the name, residence, and place of destination of such person; and said declaration may further provide that no person shall board or enter any such conveyance without such certificate.

Such certificate shall be filed in the office of the state department of health by the common carrier receiving the same within thirty-six hours after the receipt thereof.

The provisions of this regulation shall not apply to common carriers carrying passengers wholly within the limits of the municipality affected.

Regulation 51. Placarding by common carriers. When the declarations are made as provided in the preceding regulation, and a common carrier of passengers or an officer or agent thereof is notified by the state commissioner of health or by the local health officer of such declaration, it shall be the duty of such common carrier of passengers operating public conveyances in any such municipality to forthwith conspicuously place or post in every station, within such area as the state commissioner may designate, and in every conveyance the placard hereinafter described, and to keep the same posted until the epidemic is declared ended by the state commissioner of health:

"WARNING

THERE IS AN OUTBREAK OF.....IN.....

(give name of the disease and of city, town, or village)

PASSENGERS ARE CAUTIONED.

STATE COMMISSIONER OF HEALTH."

Said placard shall be in heavy block letters in red ink on a white background, with each letter not less than two inches in height and one and a half inches in width, and shall be posted so that the same shall be in plain view of passengers when they are seated.

Any common carrier aforesaid entering any such municipality shall post such placard in such conveyance in the manner aforesaid at least one hour before arriving in any municipality in which an epidemic is

Digitized by Google

declared to exist, and shall keep the same posted not less than half an hour after departing therefrom.

Regulation 52. Duties of undertakers. It shall be the duty of every undertaker taking charge of the preparation for burial of the body of any person dead of Asiatic cholera, diphtheria, epidemic cerebrospinal meningitis, glanders, plague, scarlet fever, smallpox, or typhus fever to cause it immediately to be wrapped in a sheet saturated with disinfecting solution and promptly thereafter placed in a coffin or casket, which shall then be immediately and permanently closed. This regulation shall not be construed to prohibit the embalming of any such body, but the undertaker shall cause such embalming to be done immediately upon taking charge of the body, except that, when a permit for embalming is required, this shall not proceed until the receipt of such permit. But immediately after the embalming he shall cause such body to be wrapped in a sheet and placed in a coffin or casket as hereinabove directed.

After handling, embalming, or preparing for burial the body of a person dead of any of the communicable diseases enumerated in this regulation, such parts of the persons, garments, and utensils or other articles of the undertaker or his assistants, as may have been liable to contamination with infective material, shall be immediately cleansed or disinfected or sterilized in the manner prescribed by the rules and regulations of the state department of health.

Regulation 53. Public funerals forbidden in certain cases. A public or a church funeral shall not be held of any person who has died of diphtheria, measles, scarlet fever, smallpox, or typhus fever; but any funeral of such person shall be private.*

Regulation 54. When to take effect. Every regulation in this chapter, unless otherwise specifically stated, shall take effect on the first day of May, 1914.

CHAPTER III

Milk and Cream

Regulation 1. Permit required for sale of milk in municipalities. No corporation, association, firm or individual shall sell or offer for sale at retail milk or cream in any municipality without a permit from the health officer thereof, which shall be issued subject to such con-

* The purpose of this regulation is to prevent the spread of disease by any member of the deceased's family or household who may be convalescent from the disease, or who may have the disease in a mild or unrecognized form, or who may be a carrier thereof.

Digitized by Google

ditions as may be imposed by this code or by the local health officer. Such permit shall expire on the thirty-first day of March, unless another date is designated by the local authorities, and shall be renewable on or before such date in each year, and may be revoked at any time for cause by the state commissioner of health or the local health officer after a hearing on due notice.

Regulation 2. Application for permit required. No permit for the sale at retail of milk or cream in any municipality shall be issued unless written application, sworn to by the applicant, has been made therefor in the form prescribed by the state commissioner of health.

Regulation 3. Information required in application for permit. Every application for a permit to sell at retail milk or cream in any municipality shall contain the name of each producer from whom the applicant receives or expects to receive milk or cream for sale, together with the approximate amount of milk or cream to be furnished by each such producer, and upon change in the source or amount of supply notice thereof shall be given promptly to the local health officer.

Regulation 4. Dairy farms to be inspected and scored. Previous to the first day of January, 1915, the health officer or his representative in every municipality shall make a sanitary inspection of every dairy farm where milk or cream is produced for sale at retail in such municipality and shall score each such dairy farm on the score card prescribed by the state commissioner of health.

On or after the first day of January, 1915, each such health officer or his representative shall make such inspection and scoring at least once in each year and before the thirty-first day of March in each year unless another date is designated by the local authorities pursuant to regulation 1 of this chapter.

The local health officer of such municipality may, however, in his discretion accept the inspection and scoring by the health officer or his representative of another municipality.

Regulation 5. Conditions of issuance of permit. On and after the first day of January, 1915, no permit to sell at retail milk or cream in any municipality shall be issued unless the premises, where it is proposed to handle such milk or cream, shall, in the opinion of the local health officer or his representative after inspection, have been rendered clean and sanitary; and unless each farm or dairy, where such milk or cream is produced, shall have been rated after inspection by a health officer or his representative, or, in case of protest, by a sanitary supervisor of the state department of health, at least forty per cent. on the score card prescribed by the state commissioner of health.

Digitized by Google

Regulation 6. Conditions of renewal of permit. No permit to sell at retail milk or cream in any municipality shall be renewed unless inspection has been made within the preceding six months by the local health officer or his representative of the premises where such milk or cream is handled and unless each farm or dairy where such milk or cream is produced has been rated by a health officer or his representative, or, in case of protest, by a sanitary supervisor of the state department of health, within the preceding six months after inspection at least forty per cent. on the score card prescribed by the state commissioner of health.

Regulation 7. Public display of permit. Permits to sell milk or cream shall be publicly displayed in such manner as may be prescribed by the local health authorities.

Regulation 8. Milk and cream to be kept only under sanitary conditions. No milk or cream shall be sold or kept for sale under any conditions which in the opinion of the local health officer are not clean and sanitary.

All vessels containing such milk or cream for sale shall at all times be covered, kept cool, and so placed that the contents will not be exposed to sun, dust, dirt, flies or other insects.

Regulation 9. Conditions of bottling of milk and cream. No milk or cream shall be served or sold in bottles or offered for sale in bottles, unless the bottling is done under clean and sanitary conditions at the place of production or collecting or distributing station.

Each bottle shall be capped and each cap shall show the name of the producer or dealer and the place of bottling.

Regulation 10. Receptacles to be kept in sanitary condition; when to be condemned and seized. Every can or other vessel, which is used to contain milk or cream intended for sale, shall be constantly kept in a clean and sanitary condition. When emptied and before being returned by the person to whom it was last delivered full or partly full every such can or other vessel shall be effectively cleansed. The local health officer or his representative shall condemn any such can or other vessel found by him to be in such condition that it cannot be rendered by washing clean and sanitary as a receptacle for milk or cream, and shall destroy or so mark the condemned vessel as to show it has been condemned. When so condemned and marked, such can or other vessel shall not be used again to contain milk or cream for sale. The local health officer or his representative may seize and hold as evidence any can or other vessel returned or otherwise used in violation of this regulation.

Digitized by Google

Regulation 11. Utensils to be cleansed. All dippers, measures or other utensils used in the handling of milk or cream intended for sale shall be maintained in a cleanly condition.

Regulation 12. Pasteurization. Except where a different standard of pasteurization has been adopted previous to the first day of September, 1914, by the local health authorities, no milk or cream shall be sold or offered for sale as pasteurized unless it has been subjected to a temperature averaging 145 degrees Fahrenheit for not less than thirty minutes; and no milk or cream which has been heated by any method shall be sold or offered for sale unless the heating conforms to the provisions of this regulation.

After pasteurization the milk or cream shall be immediately cooled and placed in clean containers and the containers shall be immediately sealed.

No milk or cream shall be pasteurized more than once.

Regulation 13. Designations of milk and cream restricted. All milk sold or offered for sale at retail shall bear one of the designations provided in this regulation, which constitute the minimum requirements permitted in this state.

No term other than "certified" shall be used to designate the grade or quality of milk or cream which is sold or offered for sale, except

"Grade A raw."
"Grade A pasteurized."
"Grade B raw."
"Grade B pasteurized."
"Grade C raw."
"Grade C pasteurized."

Certified. No milk shall be sold or offered for sale as certified milk which does not conform to the regulations prescribed by and bear the certification of a milk commission appointed by a county medical society organized under and chartered by the medical society of the state of New York and which has not been pronounced by such authority to be free from antiseptics, added preservatives and pathogenic bacteria, or bacteria in excessive numbers. All milk sold as certified milk shall be conspicuously marked with the name of the commission certifying it.

No county medical society shall give such certification unless all cows producing such milk have been tested at least once during the previous year with tuberculin, and any cow reacting thereto has been promptly excluded from the herd.

Digitized by Google

Grade A raw. No milk or cream shall be sold or offered for sale as Grade A raw unless it conforms to the following requirements:

The dealer selling or delivering such milk or cream must hold a permit from the local health officer.

All cows producing such milk or cream must have been tested at least once during the previous year with tuberculin, and any cow reacting thereto must have been promptly excluded from the herd.

Such milk must not at any time previous to delivery to the consumer contain more than 60,000 bacteria per cubic centimeter, and such cream not more than 300,000 bacteria per cubic centimeter.

Such milk and cream must be produced on farms which are duly scored on the score card prescribed by the state commissioner of health not less than twenty-five per cent. for equipment, and not less than fifty per cent. for methods.

Such milk and cream must be delivered within thirty-six hours from the time of milking, unless a shorter time shall be prescribed by the local health authorities.

Such milk and cream must be delivered to consumers only in containers sealed at the dairy. The caps or tags must be white and contain the term "Grade A raw" in large black type, and the name and address of the dealer.

Grade A pasteurized. No milk or cream shall be sold or offered for sale as Grade A pasteurized unless it conforms to the following requirements:

The dealer selling or delivering such milk or cream must hold a permit from the local health officer.

All cows producing such milk or cream must be healthy as disclosed by an annual physical examination.

Such milk or cream before pasteurization must not contain more than 200,000 bacteria per cubic centimeter.

Such milk must not at any time after pasteurization and previous to delivery to the consumer contain more than 30,000 bacteria per cubic centimeter, and such cream not more than 150,000 bacteria per cubic centimeter.

Such milk and cream must be produced on farms which are duly scored on the score card prescribed by the state commissioner of health not less than twenty-five per cent. for equipment and not less than forty-three per cent. for methods.

Such milk and cream must be delivered within thirty-six hours after pasteurization, unless a shorter time shall be prescribed by the local health authorities.

Digitized by Google

Such milk and cream must be delivered to consumers only in containers sealed at the dairy. The caps or tags must be white and contain the term "Grade A pasteurized" in large black type.

Grade B raw. No milk or cream shall be sold or offered for sale as Grade B raw unless it conforms to the following requirements:

The dealer selling or delivering such milk or cream must hold a permit from the local health officer.

All cows producing such milk or cream must be healthy as disclosed by an annual physical examination.

Such milk must not at any time previous to delivery to the consumer contain more than 200,000 bacteria per cubic centimeter, and such cream not more than 750,000 bacteria per cubic centimeter.

Such milk and cream must be produced on farms which are duly scored on the score card prescribed by the state commissioner of health not less than twenty-three per cent. for equipment and not less than thirty-seven per cent. for methods.

Such milk and cream must be delivered within thirty-six hours from the time of milking, unless a shorter time shall be prescribed by the local health authorities.

The caps or tags on the containers must be white and contain the term "Grade B raw" in large, bright green type, and the name of the dealer.

Grade B pasteurized. No milk or cream shall be sold or offered for sale as Grade B pasteurized unless it conforms to the following requirements:

The dealer selling or delivering such milk or cream must hold a permit from the local health officer.

All cows producing such milk or cream must be healthy as disclosed by an annual physical examination.

Such milk or cream before pasteurization must not contain more than 300,000 bacteria per cubic centimeter.

Such milk must not at any time after pasteurization and previous to delivery to the consumer contain more than 100,000 bacteria per cubic centimeter, and such cream not more than 500,000 bacteria per cubic centimeter.

Such milk and cream must be produced on farms which are duly scored on the score card prescribed by the state commissioner of health not less than twenty per cent. for equipment and not less than thirty-five per cent. for methods.

Digitized by Google

Such milk must be delivered within thirty-six hours, and such cream within forty-eight hours after pasteurization, unless a shorter time is prescribed by the local health authorities.

The caps or tags on the containers must be white and contain the term "Grade B pasteurized" in large, bright green type, and the name of the dealer.

Grade C raw. No milk or cream shall be sold or offered for sale as Grade C raw unless it conforms to the following requirements:

The dealer selling or delivering such milk or cream must hold a permit from the local health officer.

Such milk and cream must be produced on farms which are duly scored on the score card prescribed by the state commissioner of health not less than forty per cent.

Such milk and cream must be delivered within forty-eight hours from the time of milking, unless a shorter time shall be prescribed by the local health authorities.

The caps or tags affixed to the containers must be white and contain the term "Grade C raw" in large red type.

Grade C pasteurized. No milk or cream shall be sold or offered for sale as "Grade C pasteurized" unless it conforms to the following requirements:

The dealer selling or delivering such milk or cream must hold a permit from the local health officer.

Such milk and cream must be produced on farms which are duly scored on the score card prescribed by the state commissioner of health not less than forty per cent.

Such milk and cream must be delivered within forty-eight hours after pasteurization, unless a shorter time shall be prescribed by the local health authorities.

The caps or tags affixed to the containers must be white and contain the term "Grade C pasteurized" in large red type.

The bacterial count herein required shall be made only at county or municipal laboratories or such other laboratories as may be approved by the state commissioner of health.

In those municipalities where a bacterial count of the milk is, in the opinion of the local health authorities, impracticable, they may in their discretion grade milk and cream according to the score of the dairies producing it, as prescribed in this regulation, but no such milk shall be designated "certified," "Grade A raw," or "Grade A pasteurized."

Digitized by Google

This regulation shall not be construed to rescind or modify any existing local regulation or ordinance controlling the grading of milk or cream established prior to the first day of September, 1914.

Regulation 14. Supplementary regulations by local authorities. The health authorities of any municipality may in their discretion increase the stringency of these regulations or add to them in any way not inconsistent with the provisions thereof.

Regulation 15. When to take effect. Every regulation in this chapter unless otherwise specifically stated shall take effect throughout the state of New York except the city of New York on the sixteenth day of November, 1914.

CHAPTER IV

Midwives

Regulation 1. License and registration required for the practice of midwifery. On and after the first day of January, 1915, no person, other than a duly licensed and registered physician, shall practice midwifery or use the name or title of midwife unless such person shall be duly registered as a midwife with the local registrar of vital statistics. pursuant to the provisions of section 385 of the public health law, as amended by chapter 619 of the laws of 1913, and unless such person shall have received a license to practice midwifery from the state commissioner of health.

Regulation 2. Only licensed midwives to be registered. On and after the first day of January, 1915, no person not duly licensed as a midwife shall be registered as a midwife by the local registrar of vital statistics.

Regulation 3. Registration required after issuance of license and change of address. On and after the first day of January, 1915, every licensed midwife shall register her name and address with the local registrar of vital statistics within ten days after the issuance of such license and after any change in her address.

Regulation 4. Application for license required. On and after the first day of January, 1915, no license to practice midwifery shall be issued unless written application, sworn to by the applicant, has been made therefor in the form prescribed by the state commissioner of health.

Regulation 5. Qualifications required of applicant for license on and after the first day of January, 1915. On and after the first day of

Digitized by Google

January, 1915, every applicant for a license to practice midwifery must possess the following qualifications:

(*a*) Be not less than twenty-one years of age;

(*b*) Be able to read and write;

(*c*) Be clean and constantly show evidence, in general appearance, of habits of cleanliness;

(*d*) Either —

(1) possess a diploma from a recognized school for midwives; or

(2) have attended, under the instruction of a duly licensed and registered physician, not less than fifteen cases of labor and have had the care of at least fifteen mothers and newborn infants during lying-in periods of at least ten days each, and shall present a written statement from said physician or physicians that she has received such instruction in said fifteen cases, with the name, date and address of each case, and that she is reasonably skillful and competent, and

(*e*) Present evidence satisfactory to the state commissioner of health of her qualifications and of good moral character, vouched for by two reputable citizens.

Regulation 6. Qualifications required of applicant for license before the first day of January, 1915. Until the first day of January, 1915, any woman not less than twenty-one years of age, who can read and write, who is registered as a midwife with the local registrar of vital statistics, and whose moral character is vouched for to the satisfaction of the state commissioner of health by two reputable citizens, one of whom is a minister of a recognized religion, may be licensed by said commissioner to practice midwifery.

Regulation 7. Register of licensed midwives; same to be presumptive evidence of right to practice. The state commissioner of health shall cause to be entered immediately upon a register kept for that purpose, the name of every midwife licensed by him. The presence or absence of a woman's name upon said register shall be taken as presumptive evidence for or against her right to practice midwifery.

Regulation 8. Length of term of license. Unless revoked, every license to practice midwifery issued by the state commissioner of health on or after the first day of January, 1915, shall permit the holder thereof to practice midwifery for one year from the date thereof.

Regulation 9. Revocation of license. The state commissioner of health may revoke a license to practice midwifery, for cause, after having given the midwife an opportunity to be heard.

Digitized by Google

Regulation 10. Midwives forbidden to use instruments, administer or prescribe medicine, or to treat disease. A duly licensed and registered midwife may practice midwifery in cases of normal labor and in no others. No midwife shall in any case of labor use instruments of any kind nor assist labor by any artificial, forcible or mechanical means nor perform version nor attempt to remove adherent placentae nor administer, prescribe, advise or employ any poisonous or dangerous drug, herb or medicine nor attempt the treatment of disease except where the attendance of a physician cannot be speedily secured, and, in such cases, the midwife shall secure the attendance of a physician as soon as possible.

Regulation 11. Supplementary rules and regulations. The practice of midwifery shall be subject to such rules and regulations, not inconsistent herewith, as may be established by the state department of health.

Regulation 12. Date of taking effect and territory where effective designated. Every regulation in this chapter, unless otherwise specifically stated, shall take effect throughout the state of New York, except in the cities of New York and Rochester, on the sixteenth day of November, 1914.

CHAPTER V

Labor Camps

Regulation 1. Pollution of waters prohibited. All persons living in the open or in camps, tents, or other temporary shelters shall exercise every proper and reasonable precaution to dispose of their wastes so that springs, lakes, reservoirs, streams and other watercourses shall not be polluted.

Regulation 2. Notice of labor or construction camp to be occupied by five or more persons to be given health officer. Every railroad or other corporation, contractor, lumberman or other person who shall establish, construct or maintain any labor or construction camp to be occupied by five or more persons, and the person in charge of any temporary living quarters on wheels or otherwise that shall be provided for five or more workmen, shall at once notify the health officer of the town or village in which the camp or quarters are to be located, by telephone, telegraph or letter, of the presence and location of such quarters or camp.

Regulation 3. Health officer to inspect and pass on location and sanitary conditions of camps. It shall be the duty of each health officer when notified of the establishment of any camp with temporary buildings, on wheels or otherwise, in his jurisdiction promptly to inspect and

Digitized by Google

determine the propriety of the location of the camp and of its sanitary conditions. If the location or manner of operation of the camp be found by him to be detrimental to the public health he shall cause the camp to be removed or the manner of its operation to be corrected.

Regulation 4. Permit required for labor or construction camp to be occupied by more than ten persons for more than six days. No railroad or other corporation, contractor, lumberman or other person shall establish, construct or maintain any labor or construction camp to be occupied by ten or more persons for a period of more than six days without a permit from the local health officer.

Whenever any such camp shall be vacated, the person in charge thereof shall forthwith notify the local health officer and surrender to him the permit therefor.

Regulation 5. Application required for permit. Application for such permit shall be made in writing to the local health officer.

The application shall state the exact situation of the proposed camp, the type of camp to be established, the approximate number of persons to be maintained, the probable duration of stay, the proposed source of water supply for the camp, and the proposed method of sewage and garbage disposal.

Regulation 6. Conditions of issuance of permit; may be revoked. If the local health officer is satisfied after inspection that the proposed camp will not be a source of danger to the health of others or to its inmates, he shall issue the necessary permit in writing in a form to be prescribed by the State Commissioner of Health.

In case the local health officer declines to issue the permit an appeal may be taken to the State Commissioner of Health, who may grant a permit.

Any such permit may be revoked for cause by the local health officer or by the State Commissioner of Health, after a hearing.

Regulation 7. Health officer to be notified of the name of the person responsible for sanitary condition of camp. It shall be the duty of the owner, manager or foreman of a labor or construction camp occupied by twenty or more persons to detail one person who shall be responsible for the sanitary condition of the camp and to notify the local health officer of the name of such person.

Regulation 8. Copy of this chapter to be posted. There shall be furnished by the health officer and conspicuously posted in every camp a copy of this present chapter of the sanitary code or of such parts thereof as may be considered necessary by the State Commissioner of Health.

Digitized by Google

Regulation 9. No building, tent or car in any camp to be nearer than fifty feet of water's edge of public water supply. In every camp or temporary quarters the nearest part of any building, tent, car or shed shall be at least fifty feet in a horizontal direction from the water's edge of any stream, lake or reservoir, except in the case of the Hudson river below the city of Albany, the waters of which are used for a public water supply.

Regulation 10. Suitable privy or other toilet facilities to be provided and used. For every camp there shall be provided convenient and suitable privy or other toilet facilities approved by the local health officer, which the occupants of the camp shall be required to use instead of polluting the ground.

Regulation 11. Construction of privies more than two hundred feet from the water's edge. If such privy be more than two hundred feet from the water's edge of any spring, stream, lake or reservoir forming a part of a public or private water supply, it shall consist of a pit at least two feet deep, with suitable shelter over the same. No such pit shall be filled with excreta to nearer than one foot from the surface of the ground and the excreta in the pit shall always be covered with earth or ashes. If the camp is to be occupied for more than six days between May 1 and November 1 the shelter and pit shall be enclosed in fly netting.

Regulation 12. Construction and care of privies located between 50 and 200 feet from the water's edge. If such privy be between 50 and 200 feet from the waters of a spring, stream, lake or reservoir forming part of a public or private water supply, there shall be no pit, but the excreta shall be received in a watertight tub or bucket and periodically, as often as may be found necessary, shall be taken away and disposed of. Such privy shall be properly screened against flies and kept in a clean and sanitary condition; the pails or buckets shall not be allowed to fill so that they overflow or spill in carrying, and the construction of the privy shall be such that the convenient removal and replacement of the tubs or buckets is facilitated.

Regulation 13. Disposal of wastes from privies. The pails or buckets used in privies located between 50 and 200 feet from the water's edge, as referred to in regulation 12, shall when not more than three-quarters filled be removed from the privy and carried at least 200 feet from the water's edge and the contents there either burned or buried in a trench at least two feet deep so that when buried there shall be at least one foot of earth cover. The tubs or buckets immediately after being emptied shall be rinsed out with a suitable disinfectant as

Digitized by Google

particularly prescribed for such purposes by the special rules and regulations of the State Department of Health and the rinsing fluid shall also be emptied into the trench.

Regulation 14. Garbage to be disposed of in suitable manner. All garbage, kitchen wastes and other rubbish in camps shall be deposited in suitable covered receptacles which shall be emptied daily or oftener if necessary, and the contents burned, buried or otherwise disposed of in such a way as not to be or become offensive or insanitary.

Regulation 15. Water rules to be observed. Whenever a camp is established on the banks of a spring, lake, reservoir, stream or other watercourse which is a source of water supply protected by water rules formulated by the State Commissioner of Health, no bathing or washing by the occupants of said camp shall be allowed in said springs, lakes, reservoirs, streams or other watercourses, and all said water rules shall be strictly observed. There shall be furnished by the local health officer and conspicuously posted in such camp a copy of said rules or parts thereof as may be considered necessary by the State Commissioner of Health.

Regulation 16. Location and drainage of stables regulated. No stable or other shelter for animals shall be maintained within one hundred feet of any living quarters in a camp, nor within one hundred and fifty feet of any kitchen or messroom therein. No drainage from such stable or shelter shall be permitted to empty directly into any spring, lake, reservoir, stream or other watercourse forming part of a public or private water supply.

Regulation 17. Camps to be kept and left in clean and sanitary condition. All tents, cars, and buildings in, and the grounds surrounding camps shall at all times be kept and when definitely vacated be left in a clean and sanitary condition.

Regulation 18. Person in charge of camp to report cases of disease presumably communicable. It shall be the duty of the person in charge of any labor or other camp to enforce regulation 6 of Chapter II of the sanitary code, reading as follows:

> "It shall be the duty of every visiting nurse and public health nurse and of the person in charge of any labor or other camp, having knowledge of any person affected with any disease presumably communicable, who by reason of the danger to others seems to require the attention of the public health authorities to report at once to the local health officer, within whose jurisdiction such case occurs, all facts relating to the illness and physical condition of such affected person."

Digitized by Google

Regulation 19. Isolation of cases of communicable disease; cases not to be removed without permission of health officer. Whenever a case of disease presumably communicable shall occur in any labor or construction camp it shall be the duty of the person in charge of the camp immediately to isolate the case. Such isolation shall be maintained in a manner approved by the local health officer. The person in charge of the camp shall not allow the case to leave or be removed from such camp without the permission of the local health officer.

Regulation 20. Duty to enforce regulations on person in charge. It shall be the duty of the superintendent, foreman or other person in charge of a camp to see that all regulations of this chapter are faithfully observed.

Regulation 21. Supplementary rules and regulations. Labor and construction camp shall be subject to such special and supplementary rules and regulations, not inconsistent herewith, as may from time to time be made by the State Commissioner of Health.

Regulation 22. Date of taking effect and territory where effective designated. Every regulation in this chapter shall take effect throughout the State of New York except in cities on the first day of January, 1915.

CHAPTER VI

Nuisances Which May Affect Life and Health

Regulation 1. Duty of health officer to abate nuisances likely to affect health; procedure; when and where to take effect.

§ 1. The local health officer, upon receiving a complaint of the existence within his jurisdiction of a nuisance which may affect health, or when the probable existence of any such nuisance comes to his attention, shall make an immediate and thorough investigation, and if such nuisance exists he shall take all measures within his power and authority to secure its abatement.

§ 2. The health officer shall within five days of the receipt of the complaint file with the local board of health:

(*a*) the complaint, if made in writing, or, if not made in writing, a summary thereof; or, if no complaint has been made, a statement of the facts, and

(*b*) a report showing

(i) his findings;

(ii) his opinion as to whether or not the conditions amount to a nuisance likely to affect health;

(iii) the action, if any, taken by him; and

(iv) whether such nuisance has been abated.

Digitized by Google

§ 3. If said report of the health officer states that there is a nuisance ely to affect health which has not been abated, the local board of alth shall convene promptly, investigate the alleged nuisance, and ke the necessary steps provided by law for its abatement or within reasonable time from the filing of the health officer's report enter on minutes its decision giving its reason for not taking action.

§ 4. Within forty-eight hours after the entry of such decision, the alth officer shall forward a copy thereof to the state commissioner of alth, together with the original or copies of the papers filed by him th the local board, as required in subdivision 2 hereof.

§ 5. If, in the opinion of the state commissioner of health, the contions complained of constitute a nuisance likely to affect health and e abatement or removal thereof is necessary for the public good and r the protection of life and health, the said commissioner may by otice to the presiding officer of the local board of health direct him, ursuant to section 26 of the Public Health Law, to convene such local oard to take certain definite proceedings concerning which the said ommissioner is satisfied that the action recommended by him is necesary for the public good and is within the jurisdiction of such local oard of health.

§ 6. Upon the receipt of such notice from the state commissioner of ealth, the presiding officer of the local board of health shall promptly onvene such local board, which shall take the action directed by the aid commissioner.

§ 7. This regulation shall take effect throughout the state of New ork, except in cities, on the first day of March, 1915.

CHAPTER VII

Miscellaneous

Regulation 1. Spitting in public places forbidden. Spitting upon he floor of public buildings or buildings used for public assemblage, r upon the floors or platforms or any part of any railroad or trolley ar or ferry boat, or any other public conveyance, is forbidden.

This regulation shall take effect throughout the state of New York, xcept in the city of New York, on the first day of March, 1915.

Regulation 2. Common towel forbidden. No person, firm or corporation owning, in charge of, or in control of any lavatory or wash oom in any hotel, lodging house, restaurant, factory, store, office building, railway or trolley station, or public conveyance by land or water hall provide in or about such lavatory or wash room any towel for

Digitized by Google

common use. The term "common use" in this regulation shall be construed to mean for use by more than one person without cleansing.

This regulation shall take effect throughout the state of New York, except in the city of New York, on the first day of March, 1915.

Regulation 3. Common drinking cups and drinking and eating utensils forbidden. The use of common drinking cups, and of common drinking or eating utensils in any public place or public institution, or in any hotel, saloon, lodging house, theatre, factory, school or public hall; or in any railway or trolley car or ferry boat; or in any railway or trolley station or ferry house; or the furnishing of any such common drinking cup or drinking or eating utensil for common use in any such place is prohibited.

The term "common use" in this regulation shall be construed to mean for use by more than one person without adequate cleansing.

This regulation shall take effect throughout the state of New York, except in the city of New York, on the first day of March, 1915.

Regulation 4. Barbers and barber shops. Every barber or other person in charge of any barber shop shall keep such barber shop at all times in a clean and sanitary condition.

No person shall act as a barber who is affected with a venereal disease in the communicable stage or with any communicable disease enumerated in this Code, in an acute form, or with any communicable diesase of the skin.

The hands of the barber shall be washed with soap and water before serving each customer.

Brushes and combs shall frequently be cleansed with soap and water.

Shaving mugs and brushes shall be thoroughly rinsed after each use thereof.

There shall be a separate clean towel for each customer. The head rest shall be covered by a clean towel or paper.

Alum or other material used to stop the flow of blood shall be applied in powdered or liquid form only.

After the handling of a customer affected with any eruption, or whose skin is broken out, or is inflamed or contains pus, the hands of the barber shall be immediately disinfected. This shall be done by thorough washing with soap and water, followed by rinsing in alcohol (70 to 80 per cent.), or in a solution of corrosive sublimate (1 to 1,000).

The instruments used for a customer affected with any of the above named disorders shall be made safe immediately after such use by washing with soap and water and dipping for one minute in a ten per cent. solution of commercial (40 per cent.) formalin; or dipping for three minutes in alcohol (70 to 80 per cent.).

Digitized by Google

No cup or brush which has been used in the shaving of a customer affected with any of the above infectious disorders of the face shall be used for another customer unless the cup shall have been emptied and cleansed by boiling water and furnished with fresh soap, and the brush has been sterilized by a three minutes exposure to alcohol (70 to 80 per cent.), or to a corrosive sublimate solution (1 to 1,000).

This regulation shall take effect throughout the state of New York, except in the city of New York, on the first day of March, 1915.

Regulation 5. Manicures and chiropodists. The utensils and instruments employed by manicures and chiropodists in pursuit of their occupations shall be kept in a clean and sanitary condition.

After serving customers affected with a visible skin disease the hands and instruments of the operators shall be immediately cleansed and sterilized.

This regulation shall take effect throughout the state of New York, except in the city of New York, on the first day of March, 1915.

Regulation 6. Copies of regulations 4 and 5 to be posted. Every barber or other person in charge of any barber shop or place where manicuring or chiropody is done shall post a copy of regulations 4 and 5 of this chapter in a conspicuous place therein.

This regulation shall take effect on the first day of March, 1915, throughout the state of New York, except in the city of New York and in such cities in which the posting of local regulations in such shops or places is required on January 1, 1915.

Regulation 7. Local health officers to file monthly reports with state commissioner of health. Local health officers shall submit monthly reports to the state commissioner of health on forms to be prescribed by him. The first report shall be due on February 1, 1915.

This regulation shall take effect throughout the state of New York, except in the city of New York, on the first day of January, 1915.

Digitized by Google

Digitized by Google

INDEX

PAGE

Abbott, A. C., M. D., "The Qualifications of the Public Health Official". 547
Antitoxin, distribution by laboratories 172
Ayres, Leonard P., Ph.D., "The New Attitude Toward the Health of the Child" 540
"Bacteriology of Milk," William H. Park, M.D. 704
Batt, Wilmer R., M.D., "The Training of Local Registrars in Public Health Service" 778
Biggs, Hermann M., M.D., "The Health Department and the Physician" 577
Births and deaths in New York city and rest of State, 1905–1914 347
by cities 346
by counties 409
by months for sex, color, etc. 343
by years, 1885–1914 346
for cities, villages and towns 362–394
in registration districts 414–426
Bullard, T. E., M.D., "Isolation and Disinfection During and After Communicable Disease" 669
Bulletins and circulars issued 285
Cancer, deaths from 358
Child hygiene, report of director 215
description of exhibit and management 235
infant mortality by months 231
infant mortality in cities, by population 231
infant mortality in cities where infant welfare stations have been established 232
infant mortality in cities where no infant welfare stations have been established 233
infant mortality outside New York city, 1913–1914 233
letters from mayors and village presidents concerning exhibits. (See Appendix IV) 272
letters from mothers upon receipt of baby literature 277
letters from secretaries of county fairs 274
reports of activities at county fairs 268
reports of campaign in cities 240
Cities, reports of infant welfare in 240
Clark, Edward, M.D., "Isolation and Disinfection During and After Communicable Disease" 677
Commissioner of Health, report of 1–55
financial statement 12
letter of transmissal 1
reorganization of department 7
suggestions for legislative action 48
Communicable diseases, report of director 59
cases of, 1908–1914 109
by cases, deaths, case rates, etc. (Appendix XVII) 112
by counties 78
by months, New York city, rest of State, total State (Appendix XVI) 110
case fatality rates. (See Appendixes XXIII–XXVII) 79
comparison of cases for 1913 and 1914 75
cases and deaths (Appendix VII) 108
comparison of 1914 and previous six years 82
comparison of New York city and rest of State 77
(See Appendix XV) 109
diphtheria 81
chart showing cases and deaths 1908–1914 (Appendix XI).
map showing case fatality rate (Appendix XXVII).
map showing, by counties (Appendix XXII).

Digitized by Google

Communicable diseases, report of director — Continued: PAGE
epidemics, procedure in controlling 67
measles 80
map showing case fatality rate (Appendix XXIII).
map showing cases (Appendix XVIII).
chart showing cases and deaths, 1908–1914 (Appendix X).
poliomyelitis, chart showing cases and deaths, 1908–1914 (Appendix XIII).
scarlet fever 80
cases by counties (Appendix XX).
chart showing cases and deaths, 1908–1914 (Appendix IX).
map showing case fatality rate (Appendix XXV).
smallpox, chart showing cases and deaths, 1908–1914 (Appendix III).
in cities of U. S. since 1900 106
tuberculosis, chart showing cases and deaths, 1908–1914 (Appendix XIV).
cases and case rates by counties (Appendix XXIX) 121
typhoid fever 80
cases by counties (Appendix XIX).
chart showing cases and deaths by months, 1908–1914 (Appendix VIII).
in cities 81
(See Appendix XXVIII) 114
map showing case falality rate (Appendix XXIV).
whooping cough 81
chart showing cases and deaths, 1908–1914 (Appendix XII).
map showing cases by counties (Appendix XXI).
map showing case fatality rate (Appendix XXVI).
Conference of Sanitary officers, proceedings of 485–817
health officers and others in attendance 811
(see addresses under title or speaker's name).
County fairs, child welfare exhibit at 268
letters from secretaries 274
County tuberculosis hospitals, survey of, Otto R. Eichel, M.D 147
Crum, H. H., M.D., "Farm Hygiene" 686
Deaths and death rates by years, 1885–1914 342
from important causes, by years 356
deaths, in registration districts 428–481
by age periods 346
by cities 345
by counties 409
by months, for important age periods 359
for important causes 348–355
by sex, color and conjugal condition 343
by years, 1885–1914 346
for New York city and rest of State, 1905–1914 347
from cancer 358
from communicable diseases, 1908–1914 109
from important causes in cities, villages and towns 362–394
from important causes, by age periods in State institutions 395–398
from important causes in cities by age periods 401–408
total in registration districts 414–426
"Department of Education and the School Child," John H. Finley, LL.D. 583
"Department of Education and the Vaccination Law," Thomas E. Finegan 513
Diagnostic examinations by laboratories 173
Diagnosis of specimens, table showing places, time in transit, etc 201
Diphtheria 81
antitoxin 62
carriers 63

Digitized by Google

Diphtheria — Continued
chart showing cases and deaths, 1908–1914 (Appendix XI). PAGE
map showing case fatality rate (Appendix XXVII).
map showing cases by counties (Appendix XXII).
Schick test 63
(Appendix VIa) 107
Downing, Augustus S., LL.D., "The Maintenance of the Educational Standard in Medicine" 607
Eichel, Otto R., M.D., "Survey of County Tuberculosis Hospitals in New York State" 147–162
Epidemics of communicable diseases, procedure in controlling 67
Evans, W. A., M.D. "The Health Department and the Public" 589
"Farm Hygiene," H. H. Crum, M.D. 686
"Farm Sanitation," H. Genung, M.D. 683
"Farm Sanitation," Henry N. Ogden, C.E. 611
Ferris, Albert W., A.M., M.D., "The Therapeutic Uses of Saratoga Mineral Springs" 506
Financial statement 12
Finegan, Thomas E., "The Department of Education and Vaccination Law" 513
Finley, John H., LL.D., "The Department of Education and the School Child" 583
Flexner, Simon, M.D., LL.D., "Influence of Scientific Research in Public Health Work" 603
Genung, H., M.D., "Farm Sanitation" 683
Glynn, Hon. Martin H., "The Health Department and the State" 494
Guilfoy, William H., M.D., "Legal Corrections of Vital Records in New York city" 771
Harvard University, outlines of public health, courses in 554
"Health Budget and Its Apportionment," Prof. C.-E. A. Winslow 636
"Health Department and the Physician," Hermann M. Biggs, M.D. 577
"Health Department and the Public," W. A. Evans, M.D. 589
"Health Department and the State," Hon. Martin H. Glynn 494
"Health Officer and Sanitary Supervisor," Linsly R. Williams, M.D. 739
"Health Officer and Tuberculosis in Rural Communities," S. Adolphys Knopf, M.D. 618
Health Officers and others registered at conference 811
Hospitals, county tuberculosis, survey of, Otto R. Eichel, M.D. 147–162
"Importance and Method of Scoring Dairies," Ernest Kelly 715
"Importance of Pure Milk for Infants," Henry L. K. Shaw, M.D. 726
Infant mortality, by cities 345
by years, 1904–1914 346
in cities, according to population 231
by months 231
in cities, where there are infant welfare stations 232
in cities, where there are no infant welfare stations 233
New York city and rest of State, 1905–1914 302
rates outside New York city, 1913–1914 233
"Influence of Scientific Research in Public Health Work," Simon Flexner, M.D., LL.D. 603
"Isolation and Disinfection During and After Communicable Disease," T. E. Bullard, M.D. 669
"Isolation and Disinfection During and After Communicable Disease," Edward Clark, M.D. 677
Kelly, Ernest, "Importance and Method of Scoring Dairies" 715
Knopf, S. Adolphys, M. D., "Health Officer and Tuberculosis in Rural Communities" 618
Laboratories and Research, report of director 165
diagnostic examinations 173
specimens, tabulated by places, times in transit, etc 201
distribution of antitoxin 172
examination of water supplies 210
smallpox vaccine 211

Digitized by Google

PAGE
Laboratories and Research, report of director — Continued
miscellaneous examinations 211
water analyses, by municipalities 175
summary of 174
Lathrop, Julia C., "Physical Welfare of School Children" 532
"Legal Corrections of Vital Records in New York City," William H. Guilfoy, M.D. 777
Letter of transmissal 1
reorganization of department 7-12
"Maintenance of the Educational Standard in Medicine," Augustus S. Downing, LL.D. 607
"Making of Federal Health Officers," John W. Trask, M.D. 569
Marriages, 1885–1914 341
in registration districts 414-426
Massachusetts Institute of Technology, outlines of public health courses in 554
Meader, F. M., M.D., "The Sanitary Survey and Communicable Diseases" 757
Measles 80
chart showing cases and deaths, 1908–1914 (Appendix X).
map showing case fatality rate (Appendix XXIII).
map showing cases by counties (Appendix XVIII).
"Milk Regulations of New York State Sanitary Code," Linsly R. Williams, M.D. 733
"New Attitude of School Toward Health of the Child," Leonard P. Ayres, Ph.D. 540
Newspaper Health Service 288
Niagara Falls, smallpox epidemic 86
Official Bulletins 14-31
Ogden, Henry N., C.E., "Farm Sanitation" 611
Panama–Pacific Exposition exhibit 291
Park, William H., M.D., "Bacteriology of Milk" 704
Peabody, George F., "Saratoga as a Health Resort" 505
"Physical Welfare of School Children," Julia C. Lathrop 532
Poliomyelitis, chart showing cases and deaths, 1908–1914 (Appendix XIII).
Population by ages, for cities and rest of counties 482
Public Health Council, report 821-869
membership, organization and meetings (Appendix I) 831
qualifications of directors of divisions (Appendix II) 834
of nurses (Appendix IV) 836
of sanitary supervisors (Appendix III) 835
Sanitary Code, chapters I to VII (Appendix V) 836-869
"Public Health Education," George C. Whipple, C.E. 554
Publicity and Education, report of director 281
health lecture service 289
Panama–Pacific Exposition exhibit 291
special bulletins and circulars issued 285
weekly newspapers health service 288
"Qualifications and Training of the Public Health Official," A. C. Abbott, M.D. 547
Registration area, permanent, shall New York State be admitted 309
Report of commissioner of health 1-55
Sanitary Code (see report of Public Health Council, Appendix V) 836-869
Sanitary Supervisors, report of director 125
field of activity (Appendix I) 133
form used for district conferences (Appendix IV) 143
forms used in making reports (Appendixes IIIa, IIIb, IIIc, IIId, IIIe, IIIf, IIIg) 136-143
forms for sanitary survey (Appendix V) 144
letter of instruction at time of appointment (Appendix II) 134
report blanks 139
summary of work covered 130
for 1914 130
work accomplished 129

Digitized by Google

PAGE
"Sanitary Survey and Communicable Diseases," F. M. Meader, M.D.... 757
"Saratoga as a Health Resort," George F. Peabody..... 505
Scarlet fever 80
chart showing cases and deaths, 1908–1914 (Appendix IX).
map showing case fatality rate (Appendix XXV).
map showing cases by counties (Appendix XX).
Schick test 63
(Appendix VIa) 107
Shaw, Henry L. K., M.D., "Importance of Pure Milk for Infants"..... 726
Smallpox 61
chart showing cases and deaths, 1908–1914 (Appendix III).
in certain cities of United States since 1900 (Appendix V)..... 106
epidemic at Niagara Falls (Appendix IV)..... 88
portable hospital for 70
procedure in controlling..... 69
State institutions, deaths by age periods..... 395
deaths from important causes..... 395
Suggestions for legislative action.....48–54
"Therapeutic Uses of Saratoga Mineral Springs," Albert W. Ferris, A.M., M.D. 508
"Training Local Registrars in Public Health Service," Wilmer R. Batt, M.D. 778
Trask, John W., M. D., "Making of Federal Health Officers..... 569
Tuberculosis 82
chart showing cases and deaths, 1908–1914 (Appendix XIV).
table showing cases and case rates by counties (Appendix XXIX).. 121
Typhoid fever 80
carriers 66
cases in cities, 1908–1914 (Appendix XXVIII)..... 114
chart showing cases and deaths, 1908–1914 (Appendix VIII).
in cities 81
map showing cases by counties (Appendix XIX).
map showing case fatality rate (Appendix XXIV).
Vaccination 60
in cities in New York State in 1913 (Appendix I)..... 84
by months during 1914 (Appendix II)..... 84
1908–1914 (Appendix III) 85
Vital Statistics, report of director..... 297
births, 1885–1914 341
for New York city and rest of State, 1905–1914..... 347
for cities 345
for cities, by age periods and causes..... 401
by counties 409
by sex, color and months..... 343
for cities, villages and towns.....362–394
in registration districts 414–426
deaths, 1885–1914 341
and death rates by years, 1885–1914..... 342
from important causes 356
by age periods 344
by counties for age periods and causes..... 409
by months for age periods..... 359
from important causes 248–355
by sex, color, conjugal condition..... 343
for cities, villages and towns.....362–394
by age periods and causes.....401–408
for New York city and rest of State, 1905–1914..... 347
from cancer and malignant tumors..... 358
in registration districts 428–481
in State institutions 395
total in registration districts 414–426
enforcement of law, necessity of..... 307

Digitized by Google

Vital statistics, report of director — Continued: PAGE
explanation of tables presented 299
general purpose and organization of division 298
important blanks and instructions 332
infant mortality, by years, 1904–1914 346
for New York city and rest of state 302
in cities 345
law, steps taken to enforce 312
letter from director of census (Nov. 12, 1915) 311
marriages, 1885–1914 341
in registration districts 414–426
order of State Commissioner of Health (Nov. 6, 1915) 309
population, by age periods for cities and rest of counties 482
records, need for binding 335
registration, results of 298
registration area, permanent, shall New York be admitted 309
work performed by division 329
Wadsworth, Augustus B., M. D. "The Work and Facilities of the Bacterial Laboratory" 690
Water analyses, results of, by municipalities 175
summary of 174
Whipple, George C., C. E., "Public Health Education" 554
Whooping cough 81
chart showing cases and deaths 1908–1914 (Appendix XII).
map showing case fatality rate (Appendix XXVI).
map showing cases by counties (Appendix XXI).
Williams, Linsly R., M. D., "Milk Regulations of the New York State Sanitary Code" 733
"The Health Officer and Sanitary Supervisor" 739
Winslow, Prof. C.-E. A., "The Health Budget and Its Apportionment" .. 636
"Work and Facilities of the Bacterial Laboratory" Augustus B. Wadsworth, M. D. 690

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

UNIVERSITY OF MICHIGAN
3 9015 06819 4466
BOUND
AUG 31 1944
UNIV. OF MICH.
LIBRARY

Digitized by Google

Digitized by Google